

**RICHARD BISHOP, PhD, 4-30-09**

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IN THE UNITED STATES DISTRICT COURT FOR THE  
NORTHERN DISTRICT OF OKLAHOMA

W. A. DREW EDMONDSON, in his )  
capacity as ATTORNEY GENERAL )  
OF THE STATE OF OKLAHOMA and )  
OKLAHOMA SECRETARY OF THE )  
ENVIRONMENT C. MILES TOLBERT,) )  
in his capacity as the )  
TRUSTEE FOR NATURAL RESOURCES )  
FOR THE STATE OF OKLAHOMA, )

Plaintiff, )

vs. )

TYSON FOODS, INC., et al, )

Defendants. )

4:05-CV-00329-TCK-SAJ

-----  
THE VIDEOTAPED DEPOSITION OF  
RICHARD BISHOP, PhD, produced as a witness on  
behalf of the Defendants in the above styled and  
numbered cause, taken on the 30th day of April,  
2009, in the City of Tulsa, County of Tulsa, State  
of Oklahoma, before me, Lisa A. Steinmeyer, a  
Certified Shorthand Reporter, duly certified under  
and by virtue of the laws of the State of Oklahoma.

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918-587-2878**

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**A P P E A R A N C E S**

FOR THE PLAINTIFFS: Ms. Claire Xidis  
Attorney at Law  
P. O. Box 1792  
Mt. Pleasant, SC 29465  
-and-  
Mr. David Page  
Attorney at Law  
502 West 6th Street  
Tulsa, OK 74119

FOR TYSON FOODS: Mr. Timothy Jones  
Attorney at Law  
2210 West Oaklawn Drive  
Springdale, AR 72762

FOR CARGILL: Mr. Colin Deihl  
Mr. Eric Triplett  
Attorneys at Law  
1700 Lincoln Street  
Suite 3200  
Denver, CO 80203

FOR PETERSON FARMS: Mr. Philip Hixon  
Attorney at Law  
320 South Boston  
Suite 700  
Tulsa, OK 74103

FOR GEORGE'S: Mr. James Graves  
Attorney at Law  
221 North College  
Fayetteville, AR 72701  
(Via phone)

ALSO PRESENT: Dr. Gordon Rausser  
(Via phone)  
Ms. Lisa Keating

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I N D E X

W I T N E S S	P A G E
RICHARD BISHOP, PhD	
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1 (Whereupon, the deposition began at  
2 9:04 a.m.)

3 VIDEOGRAPHER: We are now on the Record for  
4 the deposition of Dr. Richard Bishop. Today is  
5 April 30th, 2009. The time is 9:03 a.m. Counsel, 09:04AM  
6 please identify yourselves for the Record?

7 MR. DEIHL: Colin Deihl on behalf of  
8 Cargill.

9 MR. TRIPLETT: Eric Triplett on behalf of  
10 Cargill. 09:04AM

11 MR. HIXON: Philip Hixon on behalf of  
12 Peterson Farms.

13 MR. JONES: Tim Jones on behalf of the  
14 Tyson defendants.

15 MS. KEATING: Lisa Keating with OnPoint 09:04AM  
16 Analytics.

17 MS. XIDIS: Claire Xidis for the State  
18 Oklahoma.

19 VIDEOGRAPHER: And on the phone today?

20 MR. GRAVES: James Graves on behalf of 09:05AM  
21 George's and George's Farms.

22 VIDEOGRAPHER: Thank you. You may swear in  
23 the witness:

24 RICHARD BISHOP, PhD  
25 having first been duly sworn to testify the truth,

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1 the whole truth and nothing but the truth, testified  
2 as follows:

3 DIRECT EXAMINATION

4 BY MR. DEIHL:

5 Q State your name for the Record, please. 09:05AM

6 A My name is Richard C. Bishop.

7 Q Have you been deposed, Dr. Bishop?

8 A Yes.

9 Q How many times?

10 A Four or five times. 09:05AM

11 Q When was the last time you were deposed?

12 A Late 1990s.

13 Q Did you meet with counsel for the plaintiffs  
14 in preparation for your deposition?

15 A I did. 09:05AM

16 Q When did you meet with them?

17 A Yesterday.

18 Q For how long did you meet?

19 A Most of the day yesterday.

20 Q Okay. Who did you meet with? 09:06AM

21 A Claire Xidis.

22 Q Anyone else?

23 A No. Well, I'm sorry. I should correct that  
24 slightly. I'm blanking on her name.

25 MS. XIDIS: Ingrid? 09:06AM

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1     **A**       Ingrid Moll was in and out of the room from  
2     time to time.

3     **Q**       Did plaintiff's counsel explain to you the  
4     deposition process?

5     **A**       Yes. 09:06AM

6     **Q**       So you're familiar with what's going to occur  
7     here today?

8     **A**       More or less, yes.

9     **Q**       Have you ever been retained as an expert  
10    witness in a case involving a contingent valuation 09:06AM  
11    survey?

12    **A**       Yes.

13    **Q**       How many times have you been retained as an  
14    expert witness in a case involving a contingent  
15    valuation survey? 09:06AM

16    **A**       Where I was deposed or --

17    **Q**       Let's just talk about where you were retained  
18    first.

19    **A**       Could you define the term retained to be an  
20    expert witness? In other words, my issue is I have 09:07AM  
21    been -- I have served as a consultant on cases  
22    involving contingent valuation, but it was not clear  
23    to me at the time that I would ever be a witness. I  
24    was serving more as a role of consultant to  
25    trustees. 09:07AM

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1 Q I would count that. Any time you were  
2 actually hired by a client to serve as an expert in  
3 connection with a contingent valuation survey.

4 A Probably three times prior to this. At the  
5 moment I can think of three times. 09:07AM

6 Q Okay. What were those times you can think of?

7 A I was an expert to the State of Alaska on  
8 their damage assessment relative to the Exxon Valdez  
9 oil spill. I was a consultant to NOAA on what's  
10 commonly known as the Montrose study in southern 09:08AM  
11 California, PCBs and DDT. I was retained by the  
12 state of Montana as a consultant on the Clark Fork  
13 damage assessment, Clark Fork River.

14 Q Any others you can think of?

15 A There probably are a couple of others where 09:08AM  
16 contingent valuation studies were considered, but  
17 didn't come to fruition, early preliminary  
18 investigations.

19 Q The cases where contingent valuation studies  
20 were considered but didn't come to fruition, which 09:09AM  
21 matters were those?

22 A The Blackbird Mine in Idaho. That's the only  
23 one I believe.

24 Q Did you do a valuation estimate in connection  
25 with the Blackbird Mine? 09:09AM

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1       **A**       No.

2       **Q**       Did anyone?

3       **A**       No, not as far as I know.

4       **Q**       Have you ever testified before in court as an  
5       expert witness?

09:10AM

6       **A**       Yes. I testified in U.S. versus National  
7       Gypsum.

8       **Q**       Where was that case venued?

9       **A**       Dallas, Texas.

10      **Q**       Who were you --

09:10AM

11      **A**       Department of Justice, U. S. Department of  
12      Justice.

13      **Q**       And what did your testimony involve?

14      **A**       It involved damages associated with releases  
15      of asbestos into the Great Swamp of New Jersey but  
16      it was -- the case was a little more complicated  
17      than that because I was testifying in, as I  
18      understood it, in a bankruptcy proceeding.

09:10AM

19      **Q**       Any other cases where you've --

20      **A**       No, I've not testified in other cases.

09:11AM

21      **Q**       Before we get going in earnest, just let's  
22      make sure we're clear about the rules of the  
23      deposition. If you could be careful to wait until I  
24      finish my question before you answer the question

25      because the court reporter can't take down both of

09:11AM

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1 us talking at the same time; is that fair?

2 A Yes. I'll do my best.

3 Q Also, the court reporter can't take down head  
4 nods, so if you could answer the questions verbally,  
5 please. 09:11AM

6 A Yes.

7 Q Is there any reason you would be unable to  
8 provide truthful testimony here today?

9 A No.

10 Q You're not on any medications that would 09:11AM  
11 impair your ability to testify?

12 A No.

13 Q In the case you described, U.S. versus  
14 National Gypsum, you were retained as an expert  
15 witness; is that correct? 09:12AM

16 A That's correct.

17 Q And you testified as an expert witness in  
18 court?

19 A Yes.

20 Q What were you qualified as an expert in? 09:12AM

21 A Economic valuation of damages.

22 Q When did that testimony occur?

23 A I can't tell you the exact year. I believe it  
24 was the early '90s.

25 Q Other than that case, have you ever testified 09:12AM

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1 in court?

2 **A** No.

3 **Q** Dr. Bishop, I've handed you what's been marked  
4 as Deposition Exhibit 1. Can you identify this  
5 document?

09:13AM

6 **A** It's my curriculum vitae.

7 **Q** Is this a current curriculum vitae?

8 **A** Yes.

9 **Q** On your CV it indicates that you're a senior  
10 consultant at Stratus Consulting, Inc.; is that  
11 correct?

09:13AM

12 **A** With qualifications. I'm basically an  
13 independent contractor to Stratus Consulting.

14 **Q** What does it mean when you say you're a senior  
15 consultant at Stratus Consulting; what does that  
16 mean on your CV?

09:13AM

17 **A** It means that I work on various projects for  
18 Stratus Consulting. So they've given me that title.

19 **Q** How long have you worked for Stratus  
20 Consulting?

09:14AM

21 **A** My principal job was -- up until three years  
22 ago was as professor at the University of Wisconsin  
23 Madison. I served as a consultant at various times  
24 intermittently with Stratus Consulting and its  
25 predecessor companies since perhaps the late '70s,

09:14AM

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1 early '80s.

2 Q What were Stratus' predecessor companies?

3 A The original company was Energy & Resource  
4 Consultants, also at Boulder, Colorado.

5 Q How are you paid by Stratus Consulting? 09:14AM

6 A Depends on the project.

7 Q In this project how are you paid?

8 A I'm not paid by Stratus Consulting.

9 Q In this project are you paid by the lawyers?

10 A I'm paid by the State of Oklahoma. 09:15AM

11 Q Okay. What is your hourly rate in this  
12 matter?

13 A \$250.

14 Q And how many hours approximately have you  
15 worked on this matter to date? 09:15AM

16 A I don't know.

17 Q Do you know how much you've billed to date?

18 A No.

19 Q Okay. What other matters are you currently  
20 working on for Stratus Consulting? 09:15AM

21 A I'm working on a contingent valuation study  
22 for -- NOAA is the contractor -- dealing with  
23 protection of coral reefs in Hawaii.

24 Q Any others?

25 A That's a complicated question. I'm employed 09:16AM

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1 by the State of Michigan dealing with a natural  
2 resource damage assessment. I'm working with  
3 Stratus Consulting but under contract to the State  
4 of Michigan.

5 Q Like this case where you're working with 09:16AM  
6 Stratus but you're being paid by the State of  
7 Oklahoma?

8 A Yes.

9 Q Now, your retainer agreement with this case is  
10 between you and the law firm of Motley Rice; 09:17AM  
11 correct?

12 A That's correct.

13 Q Okay. So you submit your bills to Motley  
14 Rice?

15 A That's right. 09:17AM

16 Q And if I wanted to know how much you had been  
17 paid in this matter, how would I determine that?

18 A Motley Rice has paid my invoices.

19 Q They've paid them all in full?

20 A Yes. 09:17AM

21 Q Okay. What other matters besides the  
22 protection of coral reefs in Hawaii and the State of  
23 Michigan matter that you described are you currently  
24 working on with Stratus?

25 A One project that's semi-dormant, we're doing 09:17AM

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**13**

1 some final preliminary work on a survey, again, for  
2 NOAA, looking at the benefits of protection of the  
3 North Atlantic Wright whale.

4 Q Any others?

5 A No. 09:18AM

6 Q Over the years since the late 1970s,  
7 approximately how many projects have you worked on  
8 with Stratus Consulting?

9 A That's -- that's difficult to remember  
10 precisely because some cases simply involved a peer 09:18AM  
11 review of a survey, one telephone conversation, but  
12 I can tell you approximately eight.

13 Q Do you have a list of those matters somewhere?

14 A No.

15 Q Tell me as many of those matters as you can 09:18AM  
16 recall sitting here today.

17 A Okay. Now, you're talking about where I was  
18 paid by Stratus.

19 Q No. Where you worked with Stratus, either  
20 paid by Stratus or paid by Stratus' client. 09:19AM

21 A Okay. I've listed the Michigan matter. The  
22 Wright whale study, coral reef study I've already  
23 mentioned. I worked last year on a natural resource  
24 damage assessment related to the Rocky Mountain  
25 Arsenal in Colorado. My first project with Stratus 09:19AM

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**14**

1 Consulting dealt with acid rain issues. I provided  
2 some peer-review services relative to a study that  
3 was done in the last five years dealing with a  
4 contingent valuation study regarding protection of  
5 the Steller sea lion. I played a major role in a  
6 Stratus Consulting project dealing with the natural  
7 resource damage for the Fox River in Green Bay.  
8 Others may come to me, but I'm not thinking of the  
9 specifics of others at the moment.

09:20AM

10 Q Do you receive a report at yearend from  
11 Stratus telling you the amount they've paid you in a  
12 given year?

09:21AM

13 A I think so, yes.

14 Q Some sort of tax form?

15 A Uh-huh.

09:21AM

16 Q Okay, and I take it you keep those; right?

17 A Of course.

18 Q So if we wanted to know how much you were paid  
19 by Stratus Consulting over the years since the late  
20 1970s, we could look at those forms; correct?

09:21AM

21 A Well, yes. If I'm required by the courts to  
22 turn them over to you, I would be happy to.

23 Q Okay. Sitting here today, can you tell me how  
24 much you've been paid by Stratus Consulting since  
25 the late 1970s?

09:21AM

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1       **A**       No.

2       **Q**       Can you tell me how much you've been paid by  
3       clients of Stratus Consulting since the late 1970s?

4       **A**       No.

5       **Q**       Now, you say this is your current resumT, this                   09:21AM  
6       is up to date?

7       **A**       As far as I know, yes.

8       **Q**       Okay. Take a look at the second page of this  
9       exhibit.

10      **A**       Uh-huh.   09:22AM

11      **Q**       Under the section labeled selected  
12      publications --

13      **A**       Yes.

14      **Q**       -- do you see that first item listed there?

15      **A**       Yes.   09:22AM

16      **Q**       Has that been published?

17      **A**       Yes.

18      **Q**       So this isn't current?

19      **A**       I don't have -- no. I haven't entered the  
20      publication facts there.   09:22AM

21      **Q**       Okay, and this article was published in 2005;  
22      isn't that right?

23      **A**       Gosh, is it that old? I would have to look.  
24      That's possible.

25      **Q**       Okay. Any other articles you've published                   09:22AM

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1 since 2005 that aren't listed on this CV?

2 **A** Not that I can think of.

3 **Q** Have you published any articles since 2005  
4 other than this article?

5 **A** No. 09:22AM

6 **Q** When did you retire from the University of  
7 Wisconsin?

8 **A** 2006 March. Yeah, I'll stand corrected. This  
9 CV evidently came from Stratus, and it's not up to  
10 date. 09:23AM

11 **Q** Okay. Do you have a current version of your  
12 CV, Dr. Bishop?

13 **A** I can mail you one.

14 **Q** Okay. You don't have one with you here today?

15 **A** No. 09:23AM

16 **Q** Okay.

17 MR. DEIHL: Counsel, I would request a  
18 current version of Dr. Bishop's CV, please.

19 **A** I apologize for the mixup there. In getting  
20 together documents, somehow Stratus grabbed an old  
21 one. 09:23AM

22 **Q** Okay. Stratus keeps a copy of your CV on file  
23 I take it?

24 **A** Yes, and they should have a more up-to-date  
25 one than this one, so -- 09:23AM

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1       **Q**       Taking a look at this CV, tell me what  
2       articles you have written concerning the contingent  
3       valuation methodology, and you understand what I  
4       mean when I talk about the contingent valuation  
5       methodology, don't you, Dr. Bishop? 09:24AM

6       **A**       Yes.

7       **Q**       Okay.

8       **A**       Article No. 1, Article No. 7, 8, 11, 12, 16,  
9       18, 23, 24, 28, 30, 31, 33, 35, 36, 38, 41, 45, 51,  
10      and that's all under Category A. 09:27AM

11      **Q**       Okay. Thank you. On the first page of your  
12      CV, it indicates that your research emphasizes  
13      valuation of non-market environmental services,  
14      sustainability and renewable resource management?

15      **A**       That's correct. 09:27AM

16      **Q**       And is that accurate?

17      **A**       Yes.

18      **Q**       When did you first become -- strike that.  
19      When did you first begin doing work related to the  
20      Illinois River? 09:28AM

21      **A**       Autumn of 2006.

22      **Q**       When were you retained in this matter?

23      **A**       My best recollection is sometime during the  
24      autumn of 2006.

25      **Q**       If I told you your engagement letter was 09:28AM

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1 signed July 14th, 2006, would that sound about right  
2 to you?

3 **A** That would, yes.

4 **Q** How did you come to be hired as an expert in  
5 this case?

09:28AM

6 **A** I heard bits and pieces about the case earlier  
7 in 2006, I would guess, at Stratus Consulting. I  
8 eventually sometime in that period prior to the July  
9 date that you gave talked on the telephone with  
10 David Page, and then I was retained.

09:29AM

11 **Q** Who is David Page?

12 **A** He's an attorney with Riggs Abney.

13 **Q** Were you doing work for Stratus in this time  
14 period in 2006?

15 **A** Yes.

09:29AM

16 **Q** And you say you heard talk about it around the  
17 office. What did you mean by that?

18 **A** Well, it was mentioned as something that  
19 Stratus was becoming involved in. I heard rumors of  
20 an intercept survey that was being done. I was not  
21 part of that effort, but I heard about it, and so it  
22 was discussions on that level, possibility that  
23 there might be some work for me there.

09:30AM

24 **Q** On this particular matter there are, I  
25 believe, seven listed authors on the report. Is

09:30AM

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1 that your understanding?

2 **A** I'd have to look at the report but I'll take  
3 your word for it.

4 **Q** Okay. Have you ever worked with any of those  
5 other authors before becoming involved in this 09:30AM  
6 matter?

7 **A** Yes.

8 **Q** Which ones?

9 **A** I've worked with David Chapman on several of  
10 the recent studies at Stratus that I've mentioned. 09:30AM

11 Let's see. Can I see the list of authors? We might  
12 as well be systematic. Michael Hanemann was  
13 involved in the Exxon Valdez study that I mentioned  
14 and the Montrose study. Barbara Kanninen, I have  
15 not -- I believe I have not worked with before. Jon 09:31AM

16 Krosnick I believe I first met in conjunction with  
17 the Montrose study. Morey I have not worked closely  
18 with. He was part of the Green Bay natural resource  
19 damage assessment, but I worked on a different phase  
20 of that than he did, so we did not have a lot of 09:31AM

21 contact there, and other than that, I don't believe  
22 that I've worked with Edward. He also was involved  
23 in another part of the Montana case, the Clark Fork  
24 River, and I've never worked closely with Edward  
25 Morey. Roger Tourangeau I first worked with on sort 09:32AM

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1 of preliminary work we did relative to the Blackbird  
2 Mine is where I met him, and since that time we've  
3 used him occasionally at Stratus as a consultant on  
4 survey matters. I believe he was used in the coral  
5 reef study I mentioned, the Wright whale study,  
6 those studies, and probably -- well, I won't say for  
7 sure. Perhaps in the Rocky Mountain Arsenal study  
8 that I mentioned.

09:32AM

9 Q Of the CV surveys that you've been involved  
10 in, did those surveys involve both use and non-use  
11 valuations?

09:33AM

12 A Yes.

13 Q All of them?

14 A No.

15 Q Which ones?

09:33AM

16 A I'm in Section A again, the refereed journal  
17 articles.

18 Q I'm not asking you about articles. I'm asking  
19 you about studies.

20 A Studies?

09:33AM

21 Q Uh-huh.

22 A Well, that's a complicated question. I've  
23 probably been involved in a leadership role in  
24 conducting 30 contingent valuation studies, plus or  
25 minus, and many of them involve use values but

09:33AM

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**21**

1 several others involve non-use values.

2 Q Okay. I asked you earlier what CV studies  
3 you've been involved in and you listed a series of  
4 them. I don't think you listed anywhere near 30.

5 A I'm sorry. I'm counting my academic work as 09:34AM  
6 opposed to work I did with Stratus Consulting.

7 MS. XIDIS: He said cases earlier. That  
8 might have caused the confusion.

9 MR. DEIHL: That's fair.

10 Q Of the cases, the cases that you listed 09:34AM  
11 earlier --

12 A Uh-huh.

13 Q -- tell me which of those involved both use  
14 and non-use.

15 A Oh, okay. The consulting studies? 09:34AM

16 Q Yes.

17 A Do you want to read back my list to me?

18 Q I don't know that I can. So why don't you  
19 give it your best shot.

20 A I'll give it my best shot. 09:34AM

21 MS. XIDIS: Just to clarify here, are you  
22 talking about, you're asking about the  
23 litigation-related studies that were listed at the  
24 beginning of the --

25 MR. DEIHL: No. I asked him what 09:35AM

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**22**

1 contingent valuation studies he had been involved in  
2 with Stratus.

3 MS. XIDIS: I think you said cases.

4 MR. DEIHL: We don't need to quibble about  
5 it. 09:35AM

6 MS. XIDIS: I'm just trying to clarify  
7 because I think it's becoming muddled.

8 MR. DEIHL: Yeah, I understand.

9 **A** My recollection is you asked me what studies I  
10 had been involved with Stratus. Not all of those 09:35AM  
11 involved contingent valuation.

12 **Q** I think I asked you both, but let's try again.  
13 Tell me, of the CV matters you have worked on, which  
14 ones involve both use and non-use values.

15 **A** The ongoing studies involving coral reefs and 09:35AM  
16 the Wright whale involve non-use values as well as  
17 use values. The Clark Fork River case involved  
18 both, involved the total valuation framework. The  
19 Rocky Mountain Arsenal study involved a total  
20 valuation framework. The Clark Fork River study 09:36AM  
21 involved a contingent valuation study, including  
22 non-use values.

23 **Q** Any others?

24 **A** The Green Bay damage assessment involved total  
25 values. I was involved, as I said, in a more 09:36AM

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1 peripheral way with the Steller sea lion study that  
2 was done by Stratus as a peer reviewer, and that  
3 involved non-use values.

4 Q Were you working at Stratus in 2004?

5 A You know, I honestly cannot answer that. 09:37AM

6 Q Why is that; you just don't remember?

7 A Yeah. I don't -- you know, I've tried to use  
8 dates as well as I can but it's back there. You  
9 know, a busy person often has trouble remembering  
10 exactly what date he did which thing. If you can 09:37AM  
11 clarify what you're interested in --

12 Q Were you aware that Stratus was retained in  
13 connection with the Illinois River and Tenkiller  
14 Lake back in 2004?

15 A No. 09:37AM

16 Q In your considered by materials are a number  
17 of presentations, PowerPoints that appear to date  
18 from before the time you testified here today that  
19 you were involved in the project. Were you given  
20 copies of those PowerPoints? 09:38AM

21 A Could you be more specific about which  
22 PowerPoints?

23 Q I can be. There were a series of meetings in  
24 November of 2004 that contained PowerPoints from  
25 those meetings. 09:38AM

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**24**

1     **A**       Yes. I must have been given those when I came  
2     on the project.

3     **Q**       Now, you said you were aware that a  
4     recreational intercept survey was done during the  
5     summer of 2006 on the Illinois River and Tenkiller       09:38AM  
6     Lake; correct?

7     **A**       I was trying to remember whether that was done  
8     in 2005 or 2006, but I'll take your word for it,  
9     2006.

10    **Q**       Okay. I think you testified you didn't have       09:39AM  
11    any involvement in that --

12    **A**       No.

13    **Q**       -- survey? You weren't involved in preparing  
14    the survey documents?

15    **A**       Not that I recall, any contact or any contact       09:39AM  
16    between me that actually involved that survey,  
17    crafting questions or anything like that.

18    **Q**       Okay. Did you review the report about that  
19    survey at any time?

20    **A**       I very likely reviewed that report when I came       09:39AM  
21    on the project.

22    **Q**       Why did you review that report when you came  
23    on the project?

24    **A**       As background information for my work on the  
25    project.   09:39AM

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**25**

1       **Q**       Now, when you came on to the project in the  
2       summer of 2006, what were you charged with doing?

3       **A**       Originally exploring the feasibility and  
4       potential usefulness of a total valuation study of  
5       the natural resource damages.

09:40AM

6       **Q**       Who asked you to look at the feasibility and  
7       usefulness of a total valuation study?

8       **A**       David Chapman.

9       **Q**       How did you go about looking at the  
10      feasibility of the total valuation study in this  
11      context?

09:41AM

12      **A**       I became familiar with the resources, that is,  
13      the Illinois River and tributaries and Tenkiller  
14      Lake. I talked to other consultants at Stratus and  
15      I also attended a meeting I believe in October of  
16      2006 where scientists on the study were presenting  
17      what they were -- presenting the research they were  
18      doing and presenting preliminary results and telling  
19      the group where they thought the research would go  
20      in the future. I believe as early as late 2006 we  
21      conducted some focus groups, which we began to talk  
22      to Oklahoma citizens about the issues.

09:42AM

09:42AM

23      **Q**       And this meeting that you described in October  
24      and these focus groups, these were all in the fall  
25      of 2006 sometime?

09:43AM

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1       **A**       I believe so.

2       **Q**       Okay, and that was your work on trying to  
3       determine the feasibility of a total valuation  
4       study?

5       **A**       Feasibility and potential usefulness. 09:43AM

6       **Q**       Okay. Now, by the time you started working in  
7       earnest on this project in the fall of 2006, Stratus  
8       already had the results from the recreational  
9       intercept study; correct?

10      **A**       I don't know specifically whether those 09:43AM  
11      results were available in the summer or early fall  
12      of 2006. I would assume they were.

13      **Q**       Okay. You recall reviewing that study?

14      **A**       At some point in that period, late 2006.

15      **Q**       In your efforts to study the feasibility and 09:44AM  
16      usefulness of a total valuation study, tell me what  
17      else you did in that process. You've described the  
18      meeting that you had and you've described these  
19      early focus groups. What else did you do?

20               MS. XIDIS: Objection to form. 09:44AM

21      **A**       What else did I do? Carried on extension --  
22      extensive discussions with David Chapman and members  
23      of the research team.

24      **Q**       Now, how did you gauge the usefulness of the  
25      total valuation study? 09:44AM

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1 board but no decision had been made.

2 Q When was the decision made to use a CV method  
3 of estimation?

4 A I can't give you an exact date.

5 Q Approximately. 09:48AM

6 A Well, sometime in early 2007.

7 Q And why did you choose that method to estimate  
8 the monetary value of damages in this case?

9 MS. XIDIS: Objection to form.

10 A Can you read the question, please? 09:48AM

11 (Whereupon, the court reporter read  
12 back the previous question.)

13 A In my judgment there were significant -- there  
14 was in my judgment -- let me start again. In my  
15 judgment there was the potential for significant 09:49AM  
16 non-use values associated with these injuries.

17 Q What alternative methods of valuation did you  
18 discuss with the team members?

19 A As I said, I was brought on board to help  
20 consider whether to do a contingent valuation study, 09:50AM  
21 and so I was not party to discussions of other  
22 methods.

23 Q Do you know whether or not the Stratus team  
24 considered other methods of valuation in connection  
25 with this case? 09:50AM

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1 significant non-use values associated with these  
2 injuries.

3 Q And you indicated in answer to one of my  
4 previous questions that you decided that a  
5 contingent valuation survey was feasible and useless 09:52AM  
6 -- useful, excuse me, in this case because there was  
7 a potential for significant non-use damages?

8 A That's right.

9 Q How did you determine that there was a  
10 potential for significant non-use damages? 09:52AM

11 A The Illinois River is an officially designated  
12 scenic river of the state of Oklahoma and was  
13 recognized through that -- the Scenic Rivers Act as  
14 a special resource to the state. Tenkiller Lake was  
15 and is an important recreational and environment 09:53AM  
16 resource for the state, and I'm not sure I've  
17 completed my answer. Would you repeat the question?

18 (Whereupon, the court reporter read  
19 back the previous question.)

20 A Oh. So I was on the right track. Sorry. And 09:53AM  
21 the preliminary focus groups indicated that people  
22 seemed to care about these resources, the Illinois  
23 River and Tenkiller Lake, even if they were not  
24 current or recent past users.

25 Q In your opinion when is a total valuation 09:54AM

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1 study appropriate or feasible?

2 **A** Whether it's appropriate or not in a context  
3 like this is a legal decision. Whether it's  
4 feasible or not is an economic decision. In other  
5 words, there would be no reason to do a total  
6 valuation study if legally it would be irrelevant.

09:55AM

7 **Q** In your opinion as an expert in the valuation  
8 of non-market environmental services, is there ever  
9 a situation where total value studies are  
10 inappropriate?

09:55AM

11 MS. XIDIS: Objection to form.

12 **A** Well, let me address myself only to applied  
13 studies, studies with direct application either in  
14 the policy arena or in the legal arena. I couldn't  
15 recommend doing a total valuation study if I felt  
16 that there would not be significant non-use values  
17 involved.

09:56AM

18 **Q** Any other situations?

19 **A** No, not as long as the client felt that the  
20 total valuation -- that the non-use values, excuse  
21 me, were relevant to the issues that they were  
22 attempting to address.

09:57AM

23 **Q** And when in your opinion would a total  
24 valuation study not be feasible?

25 **A** Well, one condition would be where there are

09:57AM

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1 likely to be no or very small non-use values.

2 Another would be -- a study would be unfeasible if  
3 in my judgment the case involved issues that were  
4 sufficiently complex to be difficult for potential  
5 study subjects to understand and deal with.

09:58AM

6 **Q** So if I heard you correctly, you would not  
7 recommend a total value study in cases where there  
8 were small or no non-use values; right?

9 **A** That's right.

10 **Q** And how do you determine ahead of time whether  
11 there are no small or non-use -- no small or no --  
12 strike that. How do you determine ahead of time  
13 there are no non-use values?

09:59AM

14 **A** At the beginning of a study, one would want to  
15 examine the characteristics of the resource in the  
16 context of the people who might have an interest in  
17 it. The example I gave involving the Illinois River  
18 was, well, you know, it's a scenic river. There are  
19 very few designated scenic rivers in the state of  
20 Oklahoma. They are -- I got lost in my answer and  
21 forgot the question. I'm sorry.

09:59AM

10:00AM

22 (Whereupon, the court reporter read  
23 back the previous question.)

24 **A** And the other thing would be if potential  
25 study subjects don't seem to have an interest or

10:00AM

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1 care about the resource.

2 Q So you've got to do some preliminary  
3 evaluation of the study subjects in order to make  
4 your determination if there are or are not non-use  
5 values; correct?

10:01AM

6 A Correct.

7 MS. XIDIS: Object to form.

8 Q And one of the pieces of information that you  
9 had at your disposal in the fall of 2006 was the  
10 recreation intercept survey; correct?

10:01AM

11 A Uh-huh.

12 Q Did the user information of water quality from  
13 the intercept study -- strike that. Did the user  
14 answers of water quality from the intercept study  
15 inform your decision to evaluate non-use values?

10:01AM

16 A Not to any great extent.

17 Q Did it influence it at all?

18 A In a general sense, it told me that, first of  
19 all, there are substantial numbers of users who have  
20 direct contact with the water and that thus might  
21 potentially have use values, use values being an  
22 important component of -- potentially important  
23 component of total values.

10:02AM

24 Q What did the intercept survey tell you about  
25 the users' understanding or impression of water

10:03AM

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1 quality?

2 **A** That water quality did not come up often in  
3 the user surveys.

4 **Q** So users thought the water quality was good;  
5 correct? 10:03AM

6 MS. XIDIS: Object to the form.

7 **A** I'd have to look at the -- I'd have to review  
8 the report from that study to tell you.

9 **Q** I think we need a tape change. Why don't we  
10 take a quick break. 10:03AM

11 VIDEOGRAPHER: We are off the Record at  
12 10:03.

13 (Following a short recess at 10:03  
14 a.m., proceedings continued on the Record at 10:13  
15 a.m.) 10:14AM

16 VIDEOGRAPHER: We are back on the Record at  
17 10:13 a.m.

18 **Q** Dr. Bishop, let's take a look at the intercept  
19 survey results. If you'd look in that notebook  
20 under Exhibit 3 -- I've handed you what's been 10:14AM  
21 marked in David Chapman's deposition No. 3, which is  
22 a copy of the report on the intercept survey. Do  
23 you have that in front of you?

24 **A** Yes.

25 **Q** And if you'd look at the first paragraph of 10:15AM

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1 this report, in the introduction it indicates that  
2 one of the goals of the survey was to gain an  
3 understanding of uses and attitudes towards the  
4 river and lake; do you see that?

5 **A** Yes. 10:15AM

6 **Q** If then you'd turn to Page 9 --

7 **A** Okay.

8 **Q** -- this Table 2 represents responses to the  
9 following question: Thinking about the Illinois  
10 River/Tenkiller Lake, are there one or two things 10:16AM  
11 you particularly like or dislike about recreation  
12 here; is that right?

13 **A** Correct.

14 **Q** How many of the people who were asked that  
15 question indicated that they liked natural beauty 10:16AM  
16 and aesthetics of Tenkiller Lake?

17 **A** 53 -- I'm sorry. Tenkiller Lake, 123.

18 **Q** Out of how many?

19 **A** 180 -- no. Let's see. I'm sorry. I'm not  
20 sure I understand this table. 10:17AM

21 **Q** Well, you know, let me ask the question a  
22 different way because the table reflects all of the  
23 answers of the respondents to this question.

24 **A** Right.

25 **Q** What did the survey reveal were the two most 10:17AM

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1 common likes about recreating at Tenkiller Lake?

2 **A** Natural beauty and aesthetics and good water  
3 quality.

4 **Q** What was the most common dislike at Tenkiller  
5 Lake? 10:17AM

6 **A** I'm sorry, you asked for two or just one?

7 **Q** Just one.

8 **A** Trash, oil, debris.

9 **Q** Was water quality mentioned as something  
10 visitors disliked about the area? 10:18AM

11 **A** Yes.

12 **Q** How many people indicated that water quality  
13 was something they disliked about Tenkiller Lake?

14 **A** Eight.

15 **Q** So 92 people answering this question said they 10:18AM  
16 thought Tenkiller Lake had good water quality and 8  
17 people indicated they thought Tenkiller Lake had  
18 poor water quality; is that correct?

19 **A** What I see is -- I'm sorry. I'm jumping  
20 ahead. That's correct. 10:18AM

21 **Q** How many people mentioned that they disliked  
22 the water quality in the Illinois River?

23 **A** Six.

24 **Q** Based on your review of this exhibit, the  
25 recreation intercept survey, how would you describe 10:19AM

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1 the overall impression visitors have of the Illinois  
2 River and Tenkiller Lake?

3 MS. XIDIS: Objection to form.

4 **A** Would you reread the question, please?

5 (Whereupon, the court reporter read 10:19AM  
6 back the previous question.)

7 **A** Relative to alternative sites where people  
8 could have gone, they find these attractive sites.

9 **Q** Do estimated use values have an impact on the  
10 decision to measure non-use values? 10:20AM

11 **A** Could you read the question again, please?

12 (Whereupon, the court reporter read  
13 back the previous question.)

14 **A** The total value framework we used in this  
15 study includes the possibility of both use and 10:21AM  
16 non-use values.

17 **Q** I understand that, Dr. Bishop, but I don't  
18 think that answered my question. My question was,  
19 do estimated or actual use values have an impact on  
20 the decision to measure non-use values, and I'm 10:21AM  
21 still talking to you in the context of the fall of  
22 2006 when you were assessing whether or not to use a  
23 total valuation study in connection with this  
24 matter.

25 MS. XIDIS: Objection to form. 10:21AM

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1       **A**       Read the question again, the original  
2       question.

3               COURT REPORTER:   Before --

4       **A**       Read everything.

5               (Whereupon, the court reporter read                               10:22AM  
6       back the previous questions and answers at Page 37,  
7       Lines 9-24.)

8       **A**       I got kind of lost and I want to be sure I  
9       understand the basic question.   Could you please  
10      reread the question before the question before my                       10:23AM  
11      last answer?

12              (Whereupon, the court reporter read  
13      back the previous question at Page 37, Lines 9-10.)

14      **A**       I would say no.

15      **Q**       Why not?   10:23AM

16      **A**       We determined as a result of this evaluation  
17      that I referred to earlier of the feasibility of a  
18      total value study, that a total valuation study was  
19      the most appropriate approach to damage assessment  
20      in this case.   We had not measured non-use values --                   10:24AM

21      I'm sorry.   We had not measured use values.   Let me  
22      correct that.   We had considered whether use values  
23      might be an important component of total values, but  
24      it's not as if -- it's not as if we said, well,  
25      there are no use values, therefore, we're going to                       10:24AM

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1 study non-use values.

2 Q You did have the intercept survey, which  
3 indicated to you that people liked this particular  
4 resource. Did that influence your decision to do a  
5 total valuation study in this case?

10:25AM

6 A No.

7 Q Why not?

8 A First of all, that they liked the site, I  
9 think we acknowledge in the survey itself. We say  
10 that the site continues to be a popular site for  
11 visitors. Secondly, the intercept survey did not  
12 show whether or not current users would benefit from  
13 an improvement in water quality.

10:25AM

14 Q Earlier we talked about when you think a total  
15 valuation study would not be feasible.

10:26AM

16 A Uh-huh.

17 Q And you told me that when there were small or  
18 no non-use values and you also told me that when it  
19 is difficult for the respondents to understand. Did  
20 I get that right?

10:26AM

21 MS. XIDIS: Objection to form.

22 A We could have her read my exact wording.

23 Q Well, is one of the reasons that you think it  
24 would not be feasible to do a total valuation study  
25 because it would be difficult to understand?

10:26AM

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1 MS. XIDIS: Objection to form.

2 A Yeah, difficult to understand is a broad term.

3 What I intended to say, and perhaps I didn't

4 communicate correctly, is that contingent valuation

5 requires that study subjects understand the facts of

10:27AM

6 the case, and if it's impossible for most people,

7 for many people to understand the facts of the case,

8 then the study is not feasible.

9 Q You've done a number of natural resource

10 damage assessments. Why aren't all of your natural

10:27AM

11 resource damage assessments total valuation studies?

12 A Well, thinking back about the studies I

13 listed, the only example of a study that I can

14 recall now listing there that didn't involve a total

15 valuation framework was the National Gypsum case.

10:28AM

16 Q I thought you said you've done about 30

17 valuation studies over the years. Did I get that

18 right?

19 MS. XIDIS: Objection to form.

20 A In my role as an academic researcher, as well

10:28AM

21 as my role as a consultant, I've been involved in

22 approximately 30 contingent valuation studies.

23 Q Okay, and let's talk about that set of 30

24 contingent valuation studies.

25 A Uh-huh.

10:29AM

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1       **Q**       Not all of those 30 contingent valuation  
2       studies use -- or not all of those -- strike that.  
3       Not all of those 30 studies use a total valuation  
4       methodology, do they?

5       **A**       That's correct. 10:29AM

6       **Q**       And why didn't you use a total valuation  
7       methodology in those studies?

8       **A**       Well, there can be many reasons. To a large  
9       extent, the answer to your question rests with the  
10      questions that are being asked, the research 10:30AM

11      questions that are being asked. For example, some  
12      of my work has had to do with valuation of  
13      recreational fisheries, and in that case -- in those  
14      cases the object was to understand the benefits of  
15      changes in the quantity or quality of those 10:30AM  
16      recreational experiences. Non-use values weren't a  
17      part of that question.

18      **Q**       Any other reasons why you didn't use -- didn't  
19      measure non-use values in your other studies?

20      **A**       Not that I can think of. 10:31AM

21      **Q**       In the studies that you looked at recreational  
22      fisheries, you could have measured non-use values;  
23      correct?

24      **A**       Yes.

25      **Q**       Why did you choose not to? 10:31AM

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**42**

1       **A**       As I said in my preceding answer, non-use  
2       values were not deemed relevant to the decisions  
3       that were being made.

4       **Q**       Although it might vary from study to study, in  
5       general do you think that non-use and use values are       10:31AM  
6       equally reliable?

7       **A**       That's a big question. Could I hear the exact  
8       wording, please?

9               (Whereupon, the court reporter read  
10      back the previous question.)       10:32AM

11      **A**       I don't think I am prepared to make a  
12      generalization at that level.

13      **Q**       Can you tell me when you believe that non-use  
14      values and use values would be equally reliable?

15              MS. XIDIS: Objection to form.       10:32AM

16      **A**       I believe that contingent valuation is capable  
17      of producing reliable values for both use and total  
18      values.

19      **Q**       Who selected the team that worked on this  
20      study?       10:33AM

21              MS. XIDIS: Object to form. Just to be  
22      more specific, are we moving on from the intercept  
23      to the main --

24              MR. DEIHL: Yeah. I apologize.

25              MS. XIDIS: -- report?       10:34AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**43**

1 MR. DEIHL: I am.

2 Q I'm asking you about the Stratus report that's  
3 been prepared in this case. Who selected the team  
4 for that study?

5 A We sought a team of internationally known, 10:34AM  
6 highly competent environmental economists and survey  
7 researchers to do this study. We, that is, the  
8 members of the team as it evolved, identified  
9 additional members of the team that would be helpful  
10 that would be able to make a contribution towards 10:34AM  
11 producing a reliable study, and team members were  
12 added on that basis.

13 Q Why was Dr. Hanemann brought on to the team?

14 A Because he is a world-renowned environmental  
15 economist with extensive experience doing contingent 10:35AM  
16 valuation studies.

17 Q How does Dr. Hanemann's expertise differ from  
18 yours?

19 A I would say that Hanemann is a stronger  
20 theoretician. I would guess that I have had 10:35AM  
21 experience on more studies than he has. There's  
22 considerable overlap in our skills.

23 Q Why did you bring Dr. Krosnick on to the team?

24 A Because Dr. Krosnick is a -- is viewed as a  
25 leading survey researcher on an international level, 10:36AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**44**

1 and he has had some past experience in contingent  
2 valuation studies.

3 Q You don't consider yourself a survey  
4 researcher?

5 A Yes. Oh, I'm a survey researcher. 10:36AM

6 Q Okay. So how does Dr. Krosnick's expertise  
7 differ from yours?

8 A His training is in psychology and his  
9 specialty is survey methodology.

10 Q Why was Dr. Morey brought on to the team? 10:36AM

11 A I don't know. He was on the team when I  
12 became a member of the team.

13 Q So you weren't part of the decision to use Dr.  
14 Morey?

15 A I was not, no. So I don't know the specific 10:37AM  
16 reasons.

17 Q Do you know Dr. Morey's expertise?

18 A I'm familiar with it on general terms.

19 Q What's your understanding of Dr. Morey's  
20 expertise? 10:37AM

21 A I think he's -- I think he's an expert in  
22 environmental economics, including evaluation of  
23 environmental resources.

24 Q How about Dr. Tourangeau; why was he brought  
25 on to the team? 10:37AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

45

1       **A**       Like Dr. Krosnick, he is a world-renowned  
2       expert on survey methodology, and he brought to the  
3       team special expertise in sampling and survey  
4       administration by personal interviews.

5       **Q**       And finally, Dr. Kanninen, why was she brought       10:38AM  
6       on to the team?

7       **A**       Dr. Kanninen has done some very rigorous  
8       research on bid design and is also a well-trained  
9       and experienced person at analyzing data,  
10      specifically valuation data.       10:39AM

11      **Q**       Dr. Bishop, I've handed you what's been marked  
12      for purposes of identification as Deposition Exhibit  
13      No. 2, which was an exhibit in your considered by  
14      materials. Can you tell me what this is?

15      **A**       This is a set of what look like PowerPoint       10:40AM  
16      slides entitled OK Watershed Planning Meeting  
17      September 23rd and 24th, 2006.

18      **Q**       And is this the meeting that you referenced  
19      earlier in the fall of 2006?

20      **A**       I'm not sure. I know that the meeting we had       10:41AM  
21      with scientists was in October of 2006. This looks  
22      like an earlier meeting.

23      **Q**       You were on the team by September of 2006;  
24      right?

25      **A**       That's right.       10:41AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**46**

1       **Q**       Do you recall attending a two-day meeting in  
2       September of 2006?

3       **A**       I am not sure.

4       **Q**       Okay. You wouldn't dispute this was in your  
5       considered by materials, would you? 10:41AM

6       **A**       No.

7       **Q**       Do you have any recollection of a meeting  
8       being held in September of 2006 among the Stratus  
9       Consulting team?

10      **A**       Well, 2006 is a long ways back. I don't 10:42AM  
11      remember the specifics of a meeting at that time.

12      **Q**       Okay. If you take a look at the third page of  
13      this exhibit, there's a page labeled Goals of  
14      Weekend.

15      **A**       Uh-huh. 10:42AM

16      **Q**       Do you see that?

17      **A**       Uh-huh.

18      **Q**       At the bottom of that page it says, prepare  
19      for the full launch of economics investigations upon  
20      approval by the legal team? 10:42AM

21      **A**       Yes, I see that.

22      **Q**       Were you part of that full launch of economics  
23      investigation; is that what you were charged to do?

24      **A**       I was part of -- the efforts that I've already  
25      described in my testimony were part of -- sounds 10:43AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**47**

1 like they were part of this preparation for full  
2 launch of economic investigations.

3 Q And then if you look at Page 6 of this  
4 document, there's a page entitled Current  
5 Understanding. Do you have that in front of you?

10:43AM

6 A Uh-huh.

7 Q It references at the second bullet point  
8 rating of change in water quality over last three  
9 years. Do you see that?

10 A Yes.

10:43AM

11 Q And it indicates that 13 percent thought it  
12 was much better, 10 percent thought it was slightly  
13 better, 38 percent thought it was about the same, 17  
14 percent thought it was slightly worse and 4 percent  
15 thought it was much worse, and then 18 percent said  
16 they didn't know. Do you know where that data came  
17 from?

10:44AM

18 A At the top of the slide it says May 27th  
19 through 29th, 2006, on-site interviews.

20 Q Okay. Were those interviews part of the  
21 intercept survey; do you know?

10:44AM

22 A I don't know.

23 Q Did you ever review the materials from the May  
24 27th to 29th, 2006, on-site interviews?

25 A Since this was in my considered materials, I

10:44AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**48**

1 must have at least reviewed these. Whether they  
2 were sent to me for informational purposes or  
3 whether I was at this meeting, I don't know.

4 Q Okay. Then below it it says 66 percent is  
5 aware of the litigation?

10:44AM

6 A Uh-huh.

7 Q Do you know what that references?

8 A No.

9 Q On the next page is a slide labeled Media  
10 Campaign. Do you know what that refers to?

10:45AM

11 A Well, I know that there was a media campaign.

12 Q Okay. Tell me about that.

13 A When I came on the project, there was a  
14 campaign -- I've seen ads paid for by the poultry  
15 industry discussing issues related to the Illinois  
16 River.

10:45AM

17 Q Was there a media campaign launched by Stratus  
18 or the State of Oklahoma?

19 A Not that I know of.

20 Q If you turn to Page 10 of this exhibit, again,  
21 this is a PowerPoint from this meeting in September  
22 of 2006, and this is a page entitled Survey Design  
23 Issues; correct?

10:45AM

24 A Correct.

25 Q And the third bullet says ability to inform,

10:46AM

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**EXHIBIT D**



**RICHARD BISHOP, PhD, 4-30-09**

**49**

1 educate. What does that refer to?

2 **A** I don't know.

3 **Q** In designing a contingent valuation survey,  
4 what role does the ability to inform, educate play?

5 **A** It's very important. 10:46AM

6 **Q** Why is it important?

7 **A** You're asking me specifically about contingent  
8 valuation studies?

9 **Q** Well, let's talk more generally. Why is it  
10 important generally in a survey design context? 10:47AM

11 **A** I was answering in the context of a contingent  
12 valuation study.

13 **Q** Okay. Well, go ahead. Talk about contingent  
14 valuation studies. That's fine.

15 **A** A contingent valuation study always contains a 10:47AM

16 definition of the problem as we say in our report, a  
17 description of a solution and a valuation question,

18 at least one, depending -- a contingent valuation

19 survey can include other questions, but that's

20 the -- those three steps are the core to contingent 10:47AM

21 valuation study. In order to engage in the

22 contingent valuation study, respondents need to be

23 informed about the nature of the problem, extent of

24 the problem, the facts of the case I guess would be

25 a way to put it, and they need to be informed about 10:48AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

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1 the potential solution before they can give reliable  
2 responses to the valuation question.

3 Q And I take it it's important to be able to  
4 assure that the respondents understand the problem?

5 MS. XIDIS: Objection to form. 10:48AM

6 A Read the question again, please.

7 (Whereupon, the court reporter read  
8 back the previous question.)

9 A For -- to gain reliable contingent valuation  
10 data, respondents need to be informed about the 10:49AM  
11 problem and the solution, using the terms I used in  
12 my earlier answer.

13 Q In connection with your assessment of the  
14 feasibility and usefulness of a total valuation  
15 study in this case, did you review materials that 10:49AM  
16 were provided to you by the other Stratus members of  
17 the team from time to time?

18 A Read the question again, please.

19 (Whereupon, the court reporter read  
20 back the previous question.) 10:50AM

21 A It's hard to recall all that I looked at at  
22 that time.

23 Q Dr. Bishop, I've handed you what's been marked  
24 as Deposition Exhibit No. 3, which is another  
25 document that was in your considered by materials. 10:51AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

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1 Have you seen this document before?

2 **A** If it was in my considered material, I have  
3 seen this document before.

4 **Q** Do you recall this document?

5 **A** No. 10:51AM

6 **Q** Do you recall whether or not you attended a  
7 meeting in Boulder back in 2004 to discuss monetary  
8 damages caused by poultry litter in the Illinois  
9 River watershed?

10 **A** I don't believe that I attended any meetings 10:51AM  
11 as far back as 2004.

12 **Q** Do you know how you came into possession of  
13 this document?

14 **A** I would assume it was provided to me when I  
15 came on in 2006 as I've testified before as 10:51AM  
16 background material.

17 **Q** Take a look at the second page of this  
18 document. At this meeting in 2004 there's a section  
19 labeled Overview; do you see that?

20 **A** Yes. 10:52AM

21 **Q** And the second bullet on that page says, there  
22 are other sources of environmental problems; do you  
23 see that?

24 **A** Yes.

25 **Q** Do you know what other sources of 10:52AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**52**

1 environmental problems there are in the Illinois  
2 River and Lake Tenkiller?

3 **A** I'm aware that there are sources of phosphorus  
4 in the Illinois basin other than poultry litter,  
5 specifically domestic sewage, runoff associated with 10:53AM  
6 other fertilizers and other sources.

7 **Q** Do you know what's meant by these other  
8 sources of environmental problems can confound  
9 estimation of damages?

10 **A** No, I don't know what that's referring to. 10:53AM

11 **Q** Do you know what confound means?

12 **A** Makes more difficult.

13 **Q** Okay. Does confound have a definition in the  
14 economics world?

15 **A** Confound is not one of our items of jargon. 10:53AM

16 **Q** Why would the other sources of environmental  
17 problems make estimation of damages more difficult?

18 **A** As I said, I wasn't at this meeting as far as  
19 I know, and so I'm not sure what they were referring  
20 to here. 10:54AM

21 **Q** Okay. Why don't you ignore the document in  
22 front of you for a moment. I understand you weren't  
23 at this meeting, but you did have these materials in  
24 your considered by materials?

25 **A** That's correct. 10:54AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**53**

1       **Q**       And you would have reviewed these in your  
2       effort to look at the feasibility of a contingent  
3       valuation survey in this case; correct?

4               MS. XIDIS: Objection to form.

5       **A**       I assume I looked at this document.                               10:54AM

6       **Q**       Was one of the considerations that you took  
7       into account in deciding if you should use a  
8       contingent valuation methodology the fact that the  
9       other sources of environmental problems could  
10      confound the estimation of damages?                               10:54AM

11      **A**       As I said, I'm not sure what confound  
12      estimation of damages means here. So I would say  
13      that I did not consider that.

14      **Q**       Let's talk about your report. In your report  
15      100 percent of the damages are attributable to                       10:55AM  
16      poultry litter; correct?

17              MS. XIDIS: Objection to form.

18      **A**       Not correct.

19      **Q**       Okay. Why don't we take a look at your  
20      report. Take a look at Exhibit 6, please.                           10:55AM

21      **A**       Okay.

22      **Q**       Now, Exhibit 6 is a copy of Volume I of the  
23      Stratus Consulting report; right?

24      **A**       That's correct.

25      **Q**       If you look at the executive summary, Page               10:55AM

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**RICHARD BISHOP, PhD, 4-30-09**

**54**

1 ES-1, the first sentence indicates, this document  
2 reports the results of a study commissioned by the  
3 State of Oklahoma to measure natural resource  
4 damages associated with excess phosphorus from  
5 poultry waste and other sources. Do you see that? 10:56AM

6 **A** Uh-huh.

7 **Q** If you turn to Section 7.2 --

8 **A** Do you have a page number?

9 **Q** It's Page 7-7.

10 **A** Okay. 10:56AM

11 **Q** On Page 7 or on Page 7.7 the Stratus report  
12 states, a conservative estimate of the average  
13 willingness to pay value placed by a household in  
14 the study area on the injuries resulting from  
15 continuing pollution of the Illinois River system 10:57AM  
16 and Tenkiller Lake is \$184.55 per household.

17 **A** I see that.

18 **Q** Tell me what that \$184.55 measures.

19 **A** In summary that figure measures our best  
20 estimate of the value of damages from excess 10:58AM  
21 phosphorus in the Illinois River watershed. The  
22 average value per household of those damages.

23 **Q** And that figure, 184.55, measures the value of  
24 damages from excess phosphorus both from the poultry  
25 industry and from other sources? 10:58AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       That's correct.

2       **Q**       Does your report provide a calculation of the  
3       amount of damages you believe is attributable only  
4       to the poultry industry?

5       **A**       It does not contain such a figure. 10:58AM

6       **Q**       Do you have an opinion about the amount of  
7       damages that would be attributable only to the  
8       poultry industry?

9       **A**       That wasn't part of our charge, and I do not  
10      have an opinion on that subject. 10:59AM

11      **Q**       If you'd turn your attention back to the  
12      previous deposition exhibit, that is Deposition  
13      Exhibit No. 3.

14      **A**       Okay.

15      **Q**       Do you have that in front of you? 10:59AM

16      **A**       Yes.

17      **Q**       Take a look at the page entitled Key Services  
18      and Economic Damages.

19      **A**       See, we don't have page numbers here.

20      **Q**       We don't. 11:00AM

21      **A**       If you could help me --

22      **Q**       It's about six pages back. It's labeled Key  
23      Services and Economic Damages at the top.

24      **A**       Okay.

25      **Q**       This PowerPoint says, this analysis focuses on 11:00AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

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1 services. What's your understanding of services?

2 **A** Services in this context are an economic term  
3 for the services provided by the environment to  
4 people, and services being beneficial -- excuse me,  
5 beneficial attributes or flows of benefits. 11:01AM

6 **Q** The third bullet point indicates, this  
7 analysis focuses on services for which monetary  
8 damages are most likely to be relatively large. Do  
9 you see that?

10 **A** Yes. 11:01AM

11 **Q** Why would you focus on services for which  
12 monetary damages are most likely to be relatively  
13 large?

14 **A** As I said, I wasn't a party to this meeting,  
15 and I'm not sure what they were trying to get at 11:01AM  
16 there.

17 **Q** Okay. In your assessment of whether or not to  
18 use the contingent valuation methodology, did you  
19 focus on services for which monetary damages were  
20 most likely to be relatively large? 11:02AM

21 **A** As our report explains, we focused on  
22 aesthetics and ecosystem effects of excess  
23 phosphorus in the Illinois River system.

24 **Q** Do you know whether or not the attorneys chose  
25 the contingent valuation methodology because it 11:03AM

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**EXHIBIT D**



**RICHARD BISHOP, PhD, 4-30-09**

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1       resulted in damages that were relatively large?

2               MS. XIDIS: Objection to form.

3       **A**       I don't know what criteria the attorneys used.

4       **Q**       Okay. Dr. Bishop, I've handed you another

5       document that was in your considered by materials 11:04AM

6       that appears to relate to this same meeting back in

7       November of 2004. Have you ever seen this document

8       before?

9       **A**       Again, I have no reason to believe that this

10       was not in my considered material. At this point I 11:04AM

11       don't remember this document.

12       **Q**       Okay. So I take it if you don't remember this

13       document, you didn't rely upon it in any way in

14       concluding that the contingent valuation methodology

15       ought to be used in this case? 11:05AM

16               MS. XIDIS: Objection to form.

17       **A**       Repeat the question, please.

18               (Whereupon, the court reporter read

19       back the previous question.)

20       **A**       I don't recall relying on this document. 11:05AM

21       **Q**       Take a look at the sixth page of this

22       document. Actually take a look at the fifth page.

23       It's labeled Methods For Estimating Active Use

24       Values. Do you see that?

25       **A**       Uh-huh. 11:05AM

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**RICHARD BISHOP, PhD, 4-30-09**

**59**

1       **A**       Yes.

2       **Q**       And reminders of substitute commodities; is  
3       that correct?

4       **A**       That's correct.

5       **Q**       And checks of understanding and perceptions of       11:07AM  
6       the respondents; is that correct?

7       **A**       Correct.

8       **Q**       The bullet at the bottom of the page states,  
9       the inclusion of passive use values has been very  
10      complicated, contentious and controversial. Do you       11:07AM  
11      agree with that statement?

12      **A**       Seems a bit strong to me. So, no, I don't  
13      fully agree with that statement.

14      **Q**       What do you disagree with?

15      **A**       Well, I don't know what this statement means       11:07AM  
16      by very complicated for one thing. It certainly has  
17      been contentious, particularly in the aftermath of  
18      the Exxon Valdez oil spill damage assessment, and  
19      associated with contentiousness was some  
20      controversy.       11:08AM

21      **Q**       Did you discuss with anyone at Stratus or  
22      anyone on the team that the inclusion of passive use  
23      values would be complicated, contentious and  
24      controversial in this case?

25               MS. XIDIS: Objection to form.       11:08AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

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1     **A**       I don't remember any such discussions.

2     **Q**       Okay. Take a look at the next page. There's  
3     a bullet at the top of the next page that reads,  
4     many characteristics determine passive use values;  
5     do you see that? 11:08AM

6     **A**       Uh-huh.

7     **Q**       And one of those characteristics is media  
8     coverage.

9     **A**       Uh-huh.

10    **Q**       Did you agree with that? 11:08AM

11    **A**       Only up to a point. In my view media coverage  
12    is probably -- in most professionals' minds is  
13    probably overrated as a source of difficulty.

14    **Q**       When you say it's overrated as a source of  
15    difficulty, what do you mean? 11:09AM

16    **A**       Well, contingent valuation, as I said,  
17    involves a description of the problem, a description  
18    of the solution and a valuation question. In both  
19    of the first two steps, survey respondents are  
20    provided with information. They also bring their 11:09AM  
21    own views and opinions to the survey, and the issue  
22    here is whether media coverage has a big impact on  
23    those views and opinions that they bring to the  
24    survey. In my experience media coverage has not had  
25    a substantial impact. 11:10AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

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1 Q How do you test to determine whether or not  
2 media coverage affects passive values?

3 A Well, I can give you an example from my --  
4 from my academic research. We were conducting focus  
5 groups for a watershed protection plan for Lake 11:10AM  
6 Mendota in Madison, one of the local lakes, and a  
7 big story came out in the newspaper the day before  
8 those focus groups, talking about an actual  
9 watershed priority program that had just been  
10 adopted by the city and county. We were very -- it 11:11AM  
11 was a front page story, including color -- doing  
12 color -- with color photographs, et cetera, on the  
13 major morning newspaper in our city. In, shall we  
14 say, 20 -- among 20 survey participants or not  
15 survey participant but focus group participants the 11:12AM  
16 next evening, one or two people recalled having seen  
17 the story and they remembered it had something to do  
18 with Lake Mendota. In terms of the particulars of  
19 the priority watershed program, it didn't have much  
20 impact. So that's an example of the basis for that 11:12AM  
21 opinion.

22 Q I believe we need a tape change, so we'll take  
23 a short break.

24 VIDEOGRAPHER: We are off the Record at  
25 11:11 a.m. 11:12AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

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1 (Following a short recess at 11:11  
2 a.m., proceedings continued on the Record at 11:22  
3 a.m.)

4 VIDEOGRAPHER: We're back on the Record at  
5 11:22 a.m. 11:23AM

6 Q Dr. Bishop, before we did a tape change, we  
7 were talking about the document in front of you,  
8 which is this total value approach to damages by  
9 Stratus Consulting dated November 29 to 30, 2004,  
10 and we're looking at the page that's labeled 11:23AM  
11 estimating passive use values; correct?

12 A Yes.

13 Q At the bottom of that page is a bullet that  
14 reads, difficult to transfer values from one passive  
15 use study to another. Do you see that? 11:24AM

16 A Yes.

17 Q Do you agree with that statement?

18 A I think that statement is much too broad.

19 Q Why do you think it's too broad?

20 A I don't think you can generalize about whether 11:24AM  
21 it's difficult or not difficult. Depends on the  
22 circumstances of the transfer.

23 Q Do you believe it's difficult to transfer  
24 values for a temporal transfer of the same resource?

25 A Well, that's an interesting question. I think 11:24AM

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**RICHARD BISHOP, PhD, 4-30-09****63**

1 all benefits transfer studies -- that's what we're  
2 talking about here. All benefits transfer studies  
3 involve temporal transfers because you use past  
4 studies, and in some cases they may have been done  
5 several years ago.

11:24AM

6 **Q** Does that make it more difficult?

7 **A** Temporal transfers are simply one  
8 characteristic of benefits transfer, and as I said,  
9 it can be difficult; it can be fairly  
10 straightforward.

11:25AM

11 **Q** Take a look at the next page, which was  
12 labeled Total Value Studies, colon, quote, Damage  
13 Meter; do you see that?

14 **A** I see that.

15 **Q** What does damage meter mean to you?

11:25AM

16 **A** That is not an economic term, sir.

17 **Q** Now, on this page the Stratus consultants have  
18 listed total damage estimates from other studies; do  
19 you see that?

20 **A** Yes.

11:25AM

21 **Q** And you worked on some of those other studies;  
22 right?

23 **A** That's correct.

24 **Q** And at the bottom of the page is a bullet that  
25 reads possible factors that may lead to lower total

11:25AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**64**

1 values; do you see that?

2 **A** I see that.

3 **Q** The first bullet is possible a smaller number  
4 of residents with lower incomes are affected?

5 **A** Uh-huh. 11:26AM

6 **Q** Do you agree that's a possible factor that  
7 could lead to lower total value?

8 **A** Typically in total value studies, values apply  
9 at the household level, the values that are  
10 measured, and then they are extrapolated to the 11:26AM

11 population, and extrapolated is not a good term  
12 there. That's a term that has specific meaning  
13 that's different. They are expanded to the  
14 population of a defined area, and by multiplying the  
15 value per household times the number of households, 11:27AM  
16 the smaller -- therefore, the smaller the number of  
17 households, the lower the total value estimates.

18 Incomes is a -- the lower incomes part of this is  
19 less clear.

20 **Q** Why is that? 11:27AM

21 **A** In general we think -- well, let me rephrase.  
22 Total value estimates often are sensitive to income,  
23 that is to say, people are willing to pay more the  
24 higher their income, but that's not always true, and  
25 so sometimes lower incomes may lead to lower total 11:28AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 values but not always.

2 Q The next bullet indicates a possible factor  
3 that could lead to total -- lower total values is  
4 faster reduction of injuries. Do you see that?

5 A I see that. 11:28AM

6 Q Would you agree that the time stated for  
7 recovery of the resource has an impact on  
8 willingness to pay?

9 A Other things being equal, the longer the  
10 injuries last, the larger are the damages. 11:29AM

11 Q So it's possible that if the solution the  
12 State shows in this survey, the alum treatment, had  
13 assigned a slower recovery time, the willingness to  
14 pay would have been different?

15 MS. XIDIS: Objection to form. 11:29AM

16 A Please reread the question.

17 (Whereupon, the court reporter read  
18 back the previous question.)

19 A In our study the alum treatments were part of  
20 what I've been calling the solution, the solution 11:30AM  
21 part of the contingent valuation exercise. This is  
22 talking about the length of time that the injuries  
23 last. So if -- you know, that's how I'm  
24 interpreting this. If the injuries last five to  
25 twenty years, then other things being equal, damages 11:30AM

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**RICHARD BISHOP, PhD, 4-30-09**

**66**

1 will be less than if the injury lasts a hundred  
2 years.

3 Q Okay, and if the solution resulted in the  
4 injuries lasting a smaller amount of time, then that  
5 could affect the willingness to pay; correct? 11:30AM

6 MS. XIDIS: Objection to form.

7 A It's possible.

8 Q Just hypothetically, for example, if the State  
9 had chosen a solution in this case that would have  
10 cleaned up the resource more quickly, it would have 11:31AM  
11 changed the willingness to pay number potentially;  
12 correct?

13 MS. XIDIS: Objection to form.

14 A We didn't do that survey, so I wouldn't -- I  
15 don't know how respondents would have responded. 11:31AM

16 Q I know you don't know based on a survey, but  
17 you know based on logic that that is possible;  
18 correct?

19 MS. XIDIS: Objection to form.

20 A Can you read the question again, please? 11:31AM

21 (Whereupon, the court reporter read  
22 back the previous question.)

23 A If the solution works faster, it is possible  
24 the damages would be larger.

25 Q And if the solution worked more slowly -- 11:32AM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**67**

1 MS. XIDIS: Objection to form.

2 **A** It's possible that the damages could be  
3 smaller. The measured damages, excuse me, the  
4 measured damages are smaller.

5 **Q** The last bullet on this page indicates that 11:32AM  
6 the severity of injuries to the Illinois River and  
7 Tenkiller Lake are lower than these studies; do you  
8 see that?

9 **A** I see that.

10 **Q** And this is Stratus Consulting's opinion in 11:33AM  
11 November of 2004, that the severity of injuries in  
12 the Illinois River and Tenkiller Lake are lower than  
13 the other studies listed at the top of the page; is  
14 that your understanding?

15 **A** I don't know who wrote this or what their 11:33AM  
16 basis was for making a judgment like this. I don't  
17 think there was evidence available at that time to  
18 arrive at a conclusion like this. This sounds like  
19 speculation to me.

20 **Q** But this was Stratus Consulting's statement; 11:33AM  
21 correct?

22 **A** Well, they make mistakes, too.

23 **Q** They are you because you work for Stratus  
24 Consulting; right?

25 MS. XIDIS: Objection to form. 11:34AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1     **A**       Am I required to answer that?

2     **Q**       Yes. You work for Stratus Consulting, don't  
3     you?

4     **A**       Sometimes. So is it possible that I make  
5     mistakes, is that what you're asking? 11:34AM

6     **Q**       No. You answered my question. Thank you.  
7     Turning to the next page, actually two pages into  
8     this document, there's a PowerPoint labeled Total  
9     Value Projection TKL Basin; do you see that?

10    **A**       Uh-huh. 11:35AM

11    **Q**       And at the top of the page somebody wrote  
12    Rausser and Fisher found that passive use values are  
13    on average 50 percent of recreation values; do you  
14    see that?

15    **A**       Yes. 11:35AM

16    **Q**       Are you familiar with the Rausser and Fisher  
17    study?

18    **A**       I've looked at that study in the past. I  
19    don't have any direct memory of it at present, I  
20    mean, enough to give you details. 11:35AM

21    **Q**       Do you have any reason to disagree with this  
22    characterization of the Rausser and Fisher study?

23    **A**       I don't -- you know, I think that estimate was  
24    done in a specific context, and I don't remember the  
25    exact content -- context. I don't know that you 11:35AM

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**RICHARD BISHOP, PhD, 4-30-09****69**

1 could generalize that to any other site than the one  
2 they must have been studying.

3 Q The next bullet reads, in the TKL basin  
4 recreation is primary use, so passive use values may  
5 be somewhat lower proportion of total. Do you agree 11:36AM  
6 with that statement?

7 A No.

8 Q When you received this document -- well,  
9 strike that. You don't even remember receiving this  
10 document; correct? 11:36AM

11 A No.

12 Q Okay. So I take it you didn't have any  
13 discussion with anyone else on the team about this  
14 document?

15 A No. 11:36AM

16 Q You didn't have any discussion with David  
17 Chapman about this document?

18 A Not that I recall.

19 Q Okay. Dr. Bishop, I've handed you what's been  
20 marked as Deposition Exhibit No. 5, which is 11:37AM

21 entitled Estimation of Recreational Damages Caused  
22 By Poultry Litter in the Illinois River Watershed  
23 and Throughout Eastern Oklahoma. It appears to be  
24 another Stratus Consulting PowerPoint from this same  
25 November 29 to 30, 2004 meeting. Is that what it 11:37AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 appears like to you?

2 **A** Yes.

3 **Q** And, again, this was in your considered by  
4 materials. Do you recall reviewing this document  
5 before today?

11:37AM

6 **A** No.

7 **Q** Do you recall who gave you this document?

8 **A** No.

9 **Q** Do you recall discussing this document with  
10 anyone?

11:38AM

11 **A** No.

12 **Q** These pages also are not numbered. If you  
13 turn 25 pages into this document, and you don't have  
14 to count them the way I did, there's a page labeled  
15 Categories of Damages. Do you have that in front of  
16 you?

11:38AM

17 **A** Yes.

18 **Q** The first bullet on this page states,  
19 potential categories of recreation damages.

20 **A** Yes.

11:39AM

21 **Q** And it lists two things there. Do you agree  
22 that those are potential categories of recreation  
23 damages in connection with this resource?

24 **A** This is a very standard general theoretical  
25 conclusion within environmental economics, but these

11:39AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 two factors could be involved.

2 Q And then the bullet below that is labeled  
3 Substitution. What's your understanding of what  
4 substitution means?

5 A Substitution is a term used in environmental 11:39AM  
6 economics and refers to the choice on the part of  
7 recreationists or others to choose substitute sites  
8 as opposed to the site in question.

9 Q And the bullet here states -- the second  
10 bullet states, substitution may be as likely to 11:40AM  
11 occur from overcrowding than eutrophication. Do you  
12 agree with that statement with respect to Tenkiller  
13 Lake and the Illinois River?

14 A I'm not aware of the Caneday and Neal study  
15 1996 that concluded the carrying capacity of the 11:41AM  
16 lake is at or near its limits. So in the context of  
17 Tenkiller Lake, I have no basis for judging the  
18 validity of what is said here.

19 Q You never reviewed the Caneday and Neal 1996  
20 report? 11:41AM

21 A Not to my recollection.

22 Q A few pages back in this document is a page  
23 labeled Estimating Value of Lost Enjoyment Through  
24 Expenditures. It's maybe ten pages back.

25 A Oh, okay. Can you tell whether it's before or 11:41AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 after Expenditures For ILR Recreation?

2 Q It's the next page.

3 A The next page, all right.

4 Q Do you have it in front of you?

5 A Yes. 11:42AM

6 Q Do you know what this page is referring to  
7 when it talks about estimating value of lost  
8 enjoyment through expenditures?

9 A Well, apparently it's speculating on  
10 estimating the value of lost enjoyment by 11:43AM  
11 recreationists based on the expenditures -- or  
12 changes in expenditures that they make, but I don't  
13 know where they're coming from with this.

14 Q Have you ever seen a study that estimates  
15 value of lost enjoyment through expenditures? 11:43AM

16 A Not that I recall.

17 Q Have you ever done such a study?

18 A I don't think I've ever valued lost enjoyment  
19 through expenditures.

20 Q Have you valued anything through expenditures? 11:43AM

21 A I valued potential change in local economic  
22 impacts based on expenditures.

23 Q Where did you do that?

24 A Most recently in work that I did relative to  
25 the effects of chronic wasting disease in Wisconsin, 11:44AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 in the Wisconsin deer herd.

2 COURT REPORTER: In the what?

3 A Wisconsin deer herd. I'm sorry.

4 Q So it is a methodology that you have used;  
5 correct? 11:44AM

6 A To -- well, it's not valuation per se. That's  
7 where my quibble is. It's not valuation in the same  
8 sense as we're using the term total valuation.

9 Q I understand it's not the same as total  
10 valuation, but it is a methodology that people like 11:44AM  
11 you use to try to value lost enjoyment through  
12 expenditures?

13 A No.

14 Q In the case you talked about, it was valuing  
15 the economic impact of chronic wasting disease on 11:45AM  
16 the local economy; correct?

17 A Right.

18 Q Take a look a couple of pages back in this  
19 report. There's a page labeled Other Recreational  
20 Values For Reductions in Toxins and Other 11:45AM  
21 Contaminants, and if you'd look at these references  
22 on this page, are you familiar with any of them?

23 A I'm familiar with Breffle, et al, 1999. Lyke,  
24 1993, that's very likely a dissertation that was  
25 written under my direction. 11:46AM

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**RICHARD BISHOP, PhD, 4-30-09**

**74**

1       **Q**       Okay. What was that dissertation about?

2       **A**       In general terms it dealt with willingness to  
3       pay related to eliminating contaminants from Great  
4       Lakes fish.

5       **Q**       In that study did Lyke measure both use and                   11:47AM  
6       non-use values?

7       **A**       No. This is only for the values associated  
8       with use.

9       **Q**       Take a look -- near the back of this report is  
10      a page labeled Summary of Damages. Do you have that                   11:47AM  
11      in front of you?

12      **A**       Yes, uh-huh.

13      **Q**       Again, this is from Stratus' 2004 PowerPoint  
14      presentation. What is the total damages that  
15      Stratus indicated on this PowerPoint?                                   11:47AM

16      **A**       The PowerPoint slide suggests that total  
17      damages might be between 57 million and 69 million  
18      dollars.

19      **Q**       And that includes a figure for past damages,  
20      present year damages and future damages through the                   11:48AM  
21      year 2024; is that right?

22      **A**       It appears to.

23      **Q**       We talked a minute ago about -- strike that.  
24      You talked earlier today about the various studies  
25      that you've been involved in.   11:49AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 study?

2 **A** As I referred to earlier in my testimony, I  
3 was a consultant to NOAA, helping them understand  
4 the research process, the issues and interpretation  
5 of what was going on.

11:50AM

6 **Q** Did you assist NOAA in preparing the survey  
7 documents?

8 **A** No.

9 **Q** Who was responsible for preparing the survey  
10 documents in that -- in the Montrose matter?

11:50AM

11 **A** Define survey documents.

12 **Q** The questionnaire.

13 **A** The questionnaire?

14 **Q** Uh-huh.

15 **A** That was done by NRDA, Inc., in San Diego.

11:50AM

16 **Q** Dr. Bishop, I've handed you what's been marked  
17 for purposes of this deposition as Deposition  
18 Exhibit No. 6. Do you have that in front of you?

19 **A** Yes.

20 **Q** Did you attend the meeting that this agenda  
21 refers to?

11:51AM

22 **A** Yes.

23 **Q** Do you recall this meeting?

24 **A** Yes.

25 **Q** At the bottom of this page -- well, let me

11:51AM

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**RICHARD BISHOP, PhD, 4-30-09**

**77**

1 back up a little bit. This is an agenda from the  
2 Oklahoma poultry litter experts meeting October 25  
3 to 26, 2006; correct?

4 **A** Correct.

5 **Q** It was held here in Tulsa? 11:51AM

6 **A** Correct.

7 **Q** If you look at the bottom of the page is the  
8 schedule for Thursday.

9 **A** Uh-huh.

10 **Q** Do you see that? 11:52AM

11 **A** Yes.

12 **Q** There is -- from 10:45 to 11:30 was an  
13 overview of damage analysis. Do you see that?

14 **A** Uh-huh.

15 **Q** Did you participate in that? 11:52AM

16 **A** Yes.

17 **Q** And were you making a presentation to the  
18 team?

19 **A** Define team.

20 **Q** Well, the people who attended this meeting. 11:52AM

21 **A** We made a presentation to the people attending  
22 this meeting.

23 **Q** And the people attending this meeting included  
24 experts hired by the State of Oklahoma; correct?

25 **A** Yes. 11:52AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 Q And it also included the lawyers?

2 A There were many lawyers there.

3 Q Do you recall which lawyers were there?

4 A No. I didn't know them by name at that point

5 very well, and that's a long time ago. I don't 11:52AM

6 remember.

7 Q Okay. At the top of the page it indicates

8 there were introductions by David Page?

9 A Yes.

10 Q He's one of the lawyers, isn't he? 11:53AM

11 A Yes.

12 Q What did you present in terms of your overview

13 of damage analysis at this point in time?

14 A I don't recall.

15 Q Did you prepare PowerPoints for this 11:53AM

16 presentation?

17 A Yeah, I don't recall. It's possible that I

18 did. My recollection -- my recollection is that the

19 PowerPoint presentation was prepared by Chapman.

20 Q In the session labeled Additional Damage 11:53AM

21 Issues from 11:30 to 12:30, do you see that?

22 A Yes.

23 Q It says, discussion of cost to industry and

24 consumer resulting from proper waste disposal. What

25 did you discuss regarding that? 11:54AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       I don't recall.

2       **Q**       It also mentions unjust enrichment. Do you  
3 recall what you discussed about that?

4       **A**       No.

5       **Q**       What do you recall from this meeting? 11:54AM

6       **A**       I recall the presentations by experts at least  
7 in general terms, I believe all of the experts  
8 listed in the Wednesday agenda. I remember that  
9 David Chapman made a presentation, and I was there  
10 either to add to his presentation or to make part of 11:54AM  
11 the presentation, I don't remember which, and that  
12 basically is it.

13       **Q**       What was the purpose of this Oklahoma poultry  
14 litter experts meeting?

15       **A**       My understanding was that this group was 11:55AM  
16 gotten together because the people listed on  
17 Wednesday's session had been conducting research on  
18 the injury -- injuries associated with excess  
19 phosphorus, and I remember clearly, and I think in  
20 my turned over materials there are PowerPoint slides 11:55AM  
21 from some of these presenters summarizing their  
22 results and -- their results so far and indicating  
23 where the research would go next.

24       **Q**       Do you recall another meeting being held in  
25 December of '06? 11:55AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       Not off the top of my head.

2       **Q**       You wouldn't question whether or not a meeting  
3       was held in December of '06?

4       **A**       It's possible that a meeting was held. That's  
5       a long time ago for somebody who is 65. 11:56AM

6       **Q**       Sure, I understand. Did you periodically have  
7       these all-expert meetings with the team connected  
8       with this case?

9       **A**       I don't remember another expert meeting with  
10      this many people attending. 11:56AM

11      **Q**       You did have other expert meetings; correct?

12      **A**       There were meetings with experts that I  
13      attended.

14      **Q**       Dr. Bishop, I've handed you what's been marked  
15      as Deposition Exhibit No. 7, which is an agenda for 11:57AM  
16      a meeting dated December 15th, 2006, and this was in  
17      your considered by materials.

18      **A**       Uh-huh, yes.

19      **Q**       The goal of this meeting was to figure out  
20      scenarios for the main survey and to identify main 11:57AM  
21      components that we would like to test for the  
22      upcoming focus groups; do you see that?

23      **A**       Yes.

24      **Q**       And Bullet No. 3 was Phone Survey Discussion?

25      **A**       Yes. 11:57AM

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**EXHIBIT D**



**RICHARD BISHOP, PhD, 4-30-09**

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1 Q What was that about?

2 A I don't recall attending this meeting.

3 Q Okay. So you don't know what that's referring  
4 to?

5 A No. 11:57AM

6 Q What was your involvement in the phone survey?

7 A The phone survey, my involvement was to, as I  
8 recall, to review questions. I may have suggested a  
9 question or two. Certainly reviewed the survey, and  
10 I saw the results as they became available. 11:58AM

11 Q Did you have any involvement in writing the  
12 report of the phone survey?

13 A I don't recall working on the report per se.

14 Q Do you know who drafted the report?

15 A No. 11:58AM

16 Q Did you review the report?

17 A Yes.

18 Q Before the phone survey was conducted, what  
19 input did you have into the methodology that was  
20 used? 11:59AM

21 A I recall participating on -- participating in  
22 one or more phone calls in which draft survey  
23 instruments were discussed. I probably made some  
24 suggestions at that time. Possibly I drafted some  
25 questions. 11:59AM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 Q Anything else?

2 A Not that I recall.

3 Q What was your understanding of the purpose of  
4 the phone survey?

5 A I think the purposes of the phone survey were 11:59AM  
6 stated in the report that I've, you know, reviewed  
7 recently in preparation for these proceedings.

8 Q Why don't we take a look at that report. It's  
9 in the notebook labeled David Chapman Deposition  
10 Exhibits and it's Exhibit No. 4. 12:00PM

11 A Let me give you those.

12 Q Do you have that in front of you?

13 A Yes.

14 Q Based on the report, what were the goals of  
15 the telephone survey? 12:01PM

16 A They're stated at the beginning of Section  
17 1.1. Would you like me to read them into the  
18 Record?

19 Q Sure.

20 A The purpose of the Oklahoma watershed short 12:01PM  
21 telephone survey is to identify Oklahoma residents'  
22 values and attitudes towards the environment and to  
23 assess their knowledge of water quality problems in  
24 the Illinois River watershed. The three main goals  
25 of this telephone survey include evaluating 12:01PM

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1 respondents' knowledge and use of Oklahoma water  
2 bodies, particularly Tenkiller Lake and the Illinois  
3 River, determining respondents' awareness of and  
4 perceptions about the sources of water quality  
5 problems in Oklahoma, identifying key messages 12:01PM  
6 respondents remember from media stories, ads, news  
7 stories and editorials about the poultry industry.  
8 **Q** You can keep that document open because I'm  
9 going to ask you about both of them at the same  
10 time. 12:02PM  
11 **A** Okay.  
12 **Q** I've handed you what's been marked as  
13 Deposition Exhibit No. 8, which appears to be a  
14 draft of the telephone survey that you were just  
15 reading from; is that correct? 12:02PM  
16 **A** I don't know which document is a draft and  
17 which one is the final one. It's impossible to tell  
18 from this.  
19 **Q** Okay. Did Stratus produce a final document?  
20 **A** I believe that the document I've seen is the 12:03PM  
21 one that's in -- that's marked as Chapman 4.  
22 **Q** Okay. I'll represent to you that Exhibit 8  
23 was a document that you produced to us in your  
24 considered by materials. Did you -- do you know if  
25 that's your handwriting on the side of the first 12:03PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 page of Exhibit 8?

2 **A** No.

3 **Q** You don't know or it isn't?

4 **A** I don't know.

5 **Q** Did you provide comments on this telephone 12:04PM  
6 survey report before it was finalized?

7 **A** I do not recall making comments.

8 **Q** Do you -- I think I asked you this already but  
9 let me ask it again. Do you know whether Stratus  
10 produced a final report? 12:04PM

11 **A** The report that I remember having reviewed is  
12 Chapman Exhibit 4.

13 **Q** And you said you --

14 **A** And whether it's final or a different draft, I  
15 don't know. 12:05PM

16 **Q** And you said you reviewed Chapman Exhibit 4  
17 yesterday in your meetings with Claire Xidis and  
18 Ingrid; is that correct?

19 MS. XIDIS: Objection to form.

20 **A** No, I didn't say that. 12:05PM

21 **Q** Did you review that document recently?

22 **A** Yes.

23 **Q** When did you review it?

24 **A** This morning.

25 **Q** Okay. What was the purpose of your review of 12:05PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 that document this morning?

2 **A** To refresh my memory about what the telephone  
3 survey found in order to better answer your  
4 questions.

5 **Q** I take it the attorneys suggested that you 12:05PM  
6 review that document to refresh your memory?

7 **A** I believe that this document was sent to me as  
8 part of the materials that Stratus sent out when it  
9 did document discovery in January.

10 **Q** Okay. What use, if any, did you make of the 12:06PM  
11 telephone survey results?

12 **A** They provided background material that I used  
13 in considering whether to recommend proceeding with  
14 the total valuation study.

15 **Q** And how did the background material that this 12:06PM  
16 telephone survey represents lend itself to your  
17 decision whether or not to continue with a  
18 contingent valuation survey?

19 **A** I don't think -- I don't think it influenced  
20 my decision about whether to recommend that the 12:07PM  
21 total valuation study proceed. I think I used it  
22 more in background -- as background to thinking  
23 about what the details of such a survey might  
24 involve.

25 **Q** When you say what the details of such a survey 12:07PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 might involve, you're talking about a contingent  
2 valuation survey?

3 **A** That's right.

4 **Q** With respect to the telephone survey, were the  
5 goals of that survey achieved?

12:07PM

6 **A** I don't remember from my, you know, quick  
7 review this morning whether -- whether this survey  
8 attained the second goal or not, second goal being  
9 determining respondents' awareness of and perception  
10 about sources of water quality problems in Oklahoma.

12:09PM

11 I remember tables later in this report talking about  
12 water quality problems in the Illinois River  
13 watershed. I don't remember whether it achieved  
14 that goal. I believe it achieved the other two  
15 goals.

12:09PM

16 **Q** If you would take a look at Exhibit 8 in your  
17 deposition.

18 **A** Oh, in my deposition.

19 **Q** Not in David Chapman's deposition.

20 **A** Right.

12:09PM

21 **Q** And look at the second page of that exhibit.

22 **A** Okay.

23 **Q** At the top of that page is a list of the goals  
24 as reflected in this draft. Do you see that?

25 **A** Yes.

12:10PM

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1       **Q**       And the second goal is determine respondents'  
2       awareness of water quality issues in Oklahoma?

3       **A**       Yes.

4       **Q**       And that changed -- that goal changed in the  
5       draft that's Chapman Exhibit No. 4, did it not?

12:10PM

6       **A**       It seems to me like, you know, there may be  
7       some wording differences. The note to fix here that  
8       somebody left here may have been concerned about  
9       that, but basically it seems to me like there's a  
10      lot of overlap between the goal here -- you're  
11      talking about Goal No. 2; correct?

12:11PM

12      **Q**       Yes.

13      **A**       Determine respondents' awareness of water  
14      quality issues in Oklahoma, and the second goal, as  
15      stated here, determine respondents' awareness of and  
16      perceptions about sources of water quality problems  
17      in Oklahoma.

12:11PM

18      **Q**       Okay. Do you know why that change was made  
19      between the February and March drafts of this  
20      report?

12:11PM

21      **A**       No.

22      **Q**       Okay. Now, after you completed this telephone  
23      survey, how did the results of the survey shape your  
24      opinion about how to structure the contingent  
25      valuation survey?

12:12PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       I could tell from the survey that Oklahoma  
2 residents are very active in use of water resources,  
3 and that they have -- that they probably have some  
4 experience with water quality at different sites in  
5 Oklahoma, so that they would, for example, have some 12:12PM  
6 familiarity with algae, and that a contingent  
7 valuation survey, if one was done, could build on  
8 that knowledge. I concluded that the level of  
9 knowledge of the Illinois River and Tenkiller Lake  
10 was such that to do a valid, reliable study, they 12:13PM  
11 would need some additional information about the  
12 facts of the situation there.

13       **Q**       What did you base the conclusion that they  
14 would need some additional information to do a  
15 valid, reliable study? 12:13PM

16       **A**       I'm on the wrong draft. Excuse me. I'm  
17 looking at Table 5 on Page 9 of the Chapman Exhibit  
18 4.

19       **Q**       Okay.

20       **A**       And the paragraph just above that table 12:15PM  
21 summarizes the results. Table 5 compares how  
22 visiting the Illinois River and Tenkiller Lake or  
23 other rivers and lakes affects respondents'  
24 awareness of issues or concerns with the river and  
25 lake. Only three respondents had visited just the 12:15PM

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1 Illinois River or just Tenkiller Lake. Two-thirds  
2 of the respondents, who had visited only Tenkiller  
3 Lake, had heard of the issues or concerns, whereas,  
4 one-third of Illinois River visitors had heard of  
5 issues of -- I'm sorry. I'm going too fast here. 12:16PM  
6 Whereas, only one-third of Illinois River visitors  
7 had heard of issues or concerns. Of those who did  
8 not visit either the Illinois River or Tenkiller  
9 Lake and did visit other rivers, only 33 percent had  
10 heard of issues of concern. 12:16PM

11 Now, there's a little confusion in this  
12 presentation here as I read it now, but basically it  
13 indicates that many people, including those who had  
14 visited the river and lake, had not heard about  
15 issues or concerns related to water quality. That's 12:16PM  
16 how I interpreted that and, thus, there would need  
17 to be -- that the public would need to be informed  
18 about these issues if they were going to make  
19 reliable responses to a contingent valuation  
20 question. 12:17PM

21 **Q** If I understood your answer, the results of  
22 the telephone survey showed that many of the  
23 respondents weren't aware of the injury; correct?

24 MS. XIDIS: Objection to form.

25 **A** What the question asked was whether they had 12:17PM

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1 heard of issues or concerns and they reported the  
2 numbers that I said.

3 Q Okay. So they hadn't even heard of the  
4 injury?

5 A That's what they said in the survey. 12:17PM

6 Q So how did those results affect how you  
7 described the injury in the CV report -- in the CV  
8 survey? Excuse me.

9 A Perhaps it would be helpful to turn to the  
10 survey itself. 12:18PM

11 Q The survey is in the notebook in front of you.  
12 It's in both of them.

13 A Sorry. This is difficult.

14 Q What are you looking at?

15 A I'm looking at Volume II, Appendix A -- 12:19PM  
16 Appendix A-1, base questionnaire and show cards.

17 MR. DEIHL: Would you read back the  
18 question?

19 (Whereupon, the court reporter read  
20 back the previous question.) 12:20PM

21 A Beginning on Page A-7, we provide carefully  
22 crafted information starting off with a map and --  
23 which is Show Card B, that shows the main rivers and  
24 lakes in Oklahoma. We go on to describe the  
25 Illinois River and Tenkiller Lake. We describe 12:21PM

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1 historic conditions in the river and lake before  
2 phosphorus became excessive.

3 Q Dr. Bishop, I'm aware of what you described in  
4 the survey documents. I'm aware of that language.

5 My question was, how did the phone survey, and 12:22PM  
6 particularly, the results of the phone survey where  
7 you determined that the respondents to the phone  
8 survey had not even heard of the injury, affect the  
9 questions that you wrote in the base survey?

10 A The questions? 12:22PM

11 Q Yes.

12 A Oh, the questions. I apologize.

13 Q How did it affect how you wrote the base  
14 survey?

15 A Well, first of all, I was only one of the team 12:22PM  
16 members who wrote the base survey. So let's share  
17 the credit a little. I mean, the general answer to  
18 your question is that in order to level the playing  
19 field across respondents, some of whom were not  
20 knowledgeable or not very knowledgeable about the 12:22PM

21 river and lake, and those who perhaps were more  
22 knowledgeable, in order to provide a foundation for  
23 a reliable contingent valuation survey, we provided  
24 basic information starting with the information that  
25 I was referring to here and continuing through the 12:23PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 descriptions of changes in the resource and other  
2 things involved in the description of the injuries.

3 Q You'd agree with me that the users of the  
4 resource who are most familiar with the resource  
5 didn't -- hadn't -- didn't believe there was an 12:23PM  
6 injury to the resource?

7 MS. XIDIS: Objection to form.

8 A I --

9 (Whereupon, the court reporter read  
10 back the previous question.) 12:23PM

11 A I disagree with that.

12 Q Why don't we take a tape change.

13 VIDEOGRAPHER: We're off the Record at  
14 12:22 p.m.

15 (Following a lunch recess at 12:22 12:24PM  
16 p.m., proceedings continued on the Record at 1:31  
17 p.m.)

18 VIDEOGRAPHER: We are back on the Record.  
19 The time is 1:31 p.m.

20 Q Dr. Bishop, before the lunch break we were 01:33PM  
21 talking about the how the telephone survey informed  
22 the questions that you put together in the CV  
23 survey. Do you recall that discussion?

24 A As I recall, just to be clear on the question,  
25 you were asking a broader question, not just the 01:33PM

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**RICHARD BISHOP, PhD, 4-30-09****93**

1 questions we asked in the survey? Which are you  
2 interested in, the questions we asked in the survey  
3 or more generally the materials we used?

4 **Q** I'm just trying to get us back to  
5 approximately where we were before lunch. I'll ask 01:34PM  
6 a follow-up question, but you recall we were  
7 discussing the telephone survey; correct?

8 **A** That's right.

9 **Q** Okay. Now, if you'd take a look at Exhibit 8,  
10 again, this is the draft of the telephone survey 01:34PM  
11 report; do you have that in front of you?

12 **A** I have it.

13 **Q** The second paragraph of that draft, the second  
14 sentence says, Meo, et al, used several  
15 methodologies to elicit some of Oklahoma stakeholder 01:34PM  
16 and policy maker concerns and preferences for  
17 managing the Illinois River watershed; do you see  
18 that?

19 **A** Yes.

20 **Q** Do you know who those stakeholders were? 01:34PM

21 **A** No. I'm not familiar with that study.

22 **Q** Do you know who Meo is?

23 **A** No.

24 **Q** Do you know what this telephone survey report  
25 means when it refers to stakeholders? 01:35PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       I don't know.

2       **Q**       Now, you indicated in answer to one of my  
3       earlier questions that the results of the telephone  
4       survey indicated to you that the respondents didn't  
5       know a lot about the injury; correct?

01:35PM

6       **A**       I said that the telephone survey indicated  
7       that some respondents are not familiar with the  
8       situation.

9       **Q**       And as a result of that, it was important for  
10      you to inform them of the situation in the survey  
11      document; correct?

01:36PM

12      **A**       We provided information about the problem of  
13      excess phosphorus to respondents in order to form  
14      the foundation for the contingent valuation  
15      question.

01:36PM

16      **Q**       How important was it in your mind to be  
17      factually accurate in your description of the  
18      phosphorus problem?

19      **A**       I devoted a lot of time and effort to -- over  
20      several months to understand the scientific results  
21      relating to the injury, collaborated with the  
22      natural scientists on the case in order to translate  
23      what they were learning into the information that we  
24      put in the survey.

01:37PM

25      **Q**       Were you the team member who was primarily

01:37PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 responsible for verifying that the scientific  
2 information presented in the survey was factually  
3 accurate?

4 **A** It was my job to coordinate with the natural  
5 scientists to do the best job I could of conveying 01:38PM  
6 to survey respondents the facts of the case.

7 **Q** In your opinion is it important to achieving a  
8 valid estimate of willingness to pay that the  
9 problem be factually described in the survey  
10 documents? 01:38PM

11 MS. XIDIS: Objection to form.

12 **A** Important in what sense?

13 **Q** Important in the sense that I just described  
14 in arriving at a valid estimate of willingness to  
15 pay. 01:38PM

16 **A** Perhaps we're saying the same thing. It was  
17 my responsibility to understand the results of the  
18 injury research and to convey that to survey  
19 respondents in terms that they could understand.

20 **Q** The information that you conveyed to survey 01:39PM  
21 respondents in terms that they could understand, was  
22 it important that that information be factually  
23 accurate?

24 **A** It was important that it be consistent with  
25 the latest scientific information. 01:39PM

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1       **Q**       And how did you go about determining whether  
2       the information you provided to the respondents was  
3       consistent with the latest scientific information?

4       **A**       I'm sorry, I was distracted looking at the  
5       exhibit. Would you repeat the question, please?

01:40PM

6                       (Whereupon, the court reporter read  
7       back the previous question.)

8       **A**       Earlier in my deposition I commented on an  
9       agenda for a meeting that was held here in Tulsa in  
10      October 2006, and that was my first in-depth

01:41PM

11      exposure to the status of the science. Subsequent  
12      to that meeting, I had many contacts with various  
13      researchers working on the research for the injury  
14      case and comparing notes with them about what their  
15      current results were looking like, where their  
16      research was going and eventually indicating or  
17      showing them my efforts to convey what I understood  
18      they were telling me in terms that could be used in  
19      the survey.

01:41PM

20      **Q**       And your goal was to be consistent with their  
21      interpretation of the actual injury; correct?

01:42PM

22      **A**       Correct.

23      **Q**       If you did not accurately describe the actual  
24      injury to the respondents in the willingness to pay  
25      survey, in your opinion could that affect the

01:42PM

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**RICHARD BISHOP, PhD, 4-30-09**

**97**

1 respondents' willingness to pay number?

2 MS. XIDIS: Objection to form.

3 **A** Repeat the question.

4 **Q** Let me rephrase the question.

5 **A** All right. 01:42PM

6 **Q** If you failed to accurately describe the  
7 actual injury, in your opinion could that impact the  
8 ultimate estimate of willingness to pay?

9 MS. XIDIS: Objection to form.

10 **A** The scientists were generating a great deal of 01:43PM

11 information, more information than could easily be  
12 conveyed to respondents, and so the process involved  
13 drafting material in terms that we thought lay

14 people, scientific lay people could understand, and  
15 testing it in focus groups with two objectives in 01:44PM

16 mind. The first was were they understanding what we  
17 were telling them and, secondly, did they feel that  
18 they needed additional information or that we were  
19 presenting them with information that was not --

20 that they didn't feel was relevant to their 01:44PM  
21 understanding of the problem.

22 **Q** It was your job to interact with the injury  
23 scientists and then take that information and put it  
24 in language that could be easily understood by the  
25 respondents; is that correct? 01:44PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       No, I don't believe so.

2       **Q**       How do you know if the information that the  
3       experts from the State was telling you was correct?

4       **A**       That's always a judgment call on my part. The  
5       work that I saw them doing seemed to be the latest

01:47PM

6       work available on the topic that I was aware of. It  
7       seemed to be well rounded and, indeed, I think their  
8       eventual expert reports showed that it was well

9       rounded in the literature on their field and in the  
10      studies, the various studies that have been done on

01:47PM

11     water quality in the basin, as well as the broader  
12     literature in their field.

13             So I felt that based on my, you know, past  
14     experience dealing with natural scientists, that

15     these people were doing a credible job of evaluating  
16     the injuries based on their disciplinary training

01:48PM

17     and reviews of the literature and the data they were  
18     gathering, et cetera.

19     **Q**       You're certainly not qualified to evaluate  
20     whether the injury scientists were doing their job  
21     correctly, are you?

01:48PM

22             MS. XIDIS: Objection to form.

23     **A**       Based on my experience, I certainly have  
24     learned about what scientists like them do, what

25     their results look like, the language they use and

01:48PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 so forth. On that basis, I have some foundation for  
2 understanding whether what they were giving me made  
3 sense.

4 **Q** You don't have any expertise in the effect of  
5 phosphorus on water bodies, do you? 01:49PM

6 **A** Only what I've learned through  
7 interdisciplinary collaboration through people who  
8 are experts in that area.

9 **Q** That's not something you've ever studied?

10 **A** Well, studied -- studying can come at various 01:49PM  
11 levels. I've certainly read a lot of their  
12 literature, interacted orally with them and learned  
13 a lot in the process.

14 **Q** So you think you were qualified to assess  
15 whether what they were telling you was 01:49PM  
16 scientifically valid?

17 **A** Up to the level of any competent participant  
18 in interdisciplinary research.

19 **Q** Which scientists did you talk to about the  
20 injury? 01:50PM

21 **A** Engel, Wells, Stevenson, Cooke, Welch, and to  
22 a much lesser extent Olsen, and to an even lesser  
23 extent other CDM employees whose names escape me.

24 **Q** Would it surprise you if I told you that some  
25 of the scientists' testimony was excluded from court 01:50PM

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**RICHARD BISHOP, PhD, 4-30-09**

**101**

1 by the judge in this case?

2 **A** No.

3 **Q** Why not?

4 **A** Because I heard about it.

5 **Q** Okay. Take a look at Exhibit 9, which is in 01:51PM  
6 front of you. This is an E-mail --

7 **A** Oh. This one. Okay.

8 **Q** Do you have that in front of you? Exhibit 9  
9 is an E-mail you wrote on January 2nd, 2007,  
10 regarding further thoughts on HEA; is that correct? 01:51PM

11 **A** Uh-huh.

12 **Q** What is HEA?

13 **A** HEA stands for habitat equivalent analysis --  
14 let me back up and clear my throat so I can be heard  
15 here. 01:51PM

16 **Q** Do you remember the question, Dr. Bishop?

17 **A** Yes, I remember the question. Sorry. I was  
18 examining the full E-mail. HEAA -- I'm sorry. HEA  
19 stands for habitat equivalency analysis.

20 **Q** You didn't conduct a habitat equivalency 01:52PM  
21 analysis in connection with this water body, did  
22 you?

23 **A** No.

24 **Q** Why not?

25 **A** Well, let me read the E-mail because clearly 01:52PM

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**RICHARD BISHOP, PhD, 4-30-09****102**

1 this E-mail had to do with that decision. So would  
2 you read the question now, please?

3 (Whereupon, the court reporter read  
4 back the previous question.)

5 **A** I actually don't remember our considering 01:54PM  
6 this, and so it's good to have this E-mail in front  
7 of me. There must have been some discussion. This  
8 E-mail is dated January 2nd, 2007, so it was very  
9 early in the project, and apparently there was some  
10 consideration about things that might be done on the 01:55PM  
11 Mountain Fork River and Broken Bow Reservoir to  
12 compensate the public for injuries from excessive  
13 phosphorus in the Illinois River watershed.

14 **Q** So you don't recall the subject matter of this  
15 E-mail? 01:55PM

16 **A** I don't remember considering habitat  
17 equivalency analysis, but the E-mail raises some  
18 questions about the feasibility of doing that.

19 **Q** You'd agree with me that you did consider  
20 using habitat equivalency analysis sometime in early 01:55PM  
21 2007; right?

22 **A** In a very preliminary way apparently.

23 **Q** Take a look at the bottom of this first page  
24 of the E-mail, the last sentence, which reads,  
25 suppose, as has been suggested, that we focus only 01:56PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 on aesthetics. Do you see that?

2 **A** Yes.

3 **Q** Who suggested that you only focus on  
4 aesthetics?

5 **A** As I read this, I was simply proposing it as a 01:56PM  
6 hypothetical to simplify the problem.

7 **Q** So no one suggested that; you're suggesting  
8 it?

9 **A** Yes.

10 **Q** Why would you focus only on aesthetics; why 01:56PM  
11 would that simplify the problem?

12 **A** As I read this, in earlier sentences I refer  
13 to case noted problems in drinking water, bacterial  
14 levels, et cetera, and so as I read this now, it  
15 appears to me that I was thinking that even if we 01:57PM  
16 simplified the habitat equivalency analysis to focus  
17 only on aesthetics, that there would be substantial  
18 problems in trying to conduct an effective habitat  
19 equivalency analysis.

20 **Q** And those substantial problems have to do with 01:57PM  
21 the fact that there are other damages, taste and  
22 odor problems in drinking water, et cetera?

23 MS. XIDIS: Objection to form.

24 **A** No.

25 **Q** What are the substantial problems? 01:57PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 Bernie Engel dated July 8th, 2007; is that correct?

2 **A** That's correct.

3 **Q** And you sent this memo to Mr. Engel?

4 **A** Yes.

5 **Q** Mr. Engel is one of the natural scientists; 02:00PM  
6 correct?

7 **A** Yes.

8 **Q** And you sent this to Mr. Engel because you  
9 thought it was important that the survey be  
10 scientifically accurate; is that correct? 02:01PM

11 **A** What I said to Engel is in the second  
12 paragraph, the success of our effort depends on a  
13 close match-up between what we tell the public and  
14 the testimony of scientific experts like you.

15 **Q** What happens if there isn't a close match-up 02:01PM  
16 between what you tell the public and the testimony  
17 of scientific experts like Mr. Engel?

18 **A** It depends on -- that's a very general  
19 question. It depends on the extent to which there's  
20 a conflict between what we say in the survey and the 02:01PM  
21 testimony of the expert in question.

22 **Q** And by success of our effort, you mean being  
23 successful in a lawsuit?

24 **A** I mean by the success of our effort, the  
25 success in completing a scientifically reliable 02:02PM

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**RICHARD BISHOP, PhD, 4-30-09****106**

1 contingent valuation survey.

2 **Q** So to complete a scientifically reliable  
3 contingent valuation survey, there needs to be a  
4 close match-up between what you tell the public and  
5 what the scientific experts are telling you?

02:02PM

6 **A** That's what I said.

7 **Q** Okay. You sent letters similar to this to  
8 other natural scientists; right?

9 **A** Yes.

10 **Q** The statement that you made to Bernie Engel  
11 that the success of our effort depends on a close  
12 match-up between what we tell the public and the  
13 testimony of scientific experts like you, assumes,  
14 does it not, that the scientific experts, like  
15 Bernie Engel, are correct; right?

02:02PM

02:03PM

16 MS. XIDIS: Objection to form.

17 **A** I would say that's too general a statement.  
18 There could be incorrect material in the testimony  
19 of an expert that would not necessarily have carried  
20 over into the CV survey or affect its validity.

02:04PM

21 **Q** But you're assuming, are you not, that the  
22 information that you're telling the public in the CV  
23 survey needs to be scientifically accurate?

24 MS. XIDIS: Objection to form.

25 **A** Again, my goal was to adequately describe for

02:04PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 the public the results of the natural science work,  
2 which was relevant to them in -- relative to the  
3 respondents in conducting a contingent valuation  
4 survey.

5 Q And you wanted to make sure that that 02:04PM  
6 description was accurate, that it reflected the --

7 A I wanted to be sure it reflected the results  
8 in the natural sciences.

9 Q Take a look at Exhibit 11, please. Do you  
10 have that in front of you? 02:05PM

11 A Yes.

12 Q Can you identify this document for me?

13 A It has a heading at the top, Survey Loose  
14 Ends. It has a date on it of Friday, July 13th,  
15 2007. 02:05PM

16 Q And can you tell me what this document is?

17 A I believe it reflects to -- it reflects the  
18 language in the draft of a survey instrument that  
19 was current as of July 2007 and highlights issues  
20 that needed further attention. 02:06PM

21 Q And these are issues that you were focused on  
22 in terms of issues that needed further attention?

23 A I'm not sure that I wrote this document. I  
24 may have; I may not have. I think the issues  
25 highlighted here are issues that the team -- that 02:07PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 came out of discussions of the team about places  
2 that we might need to do some additional work on  
3 what it said in the survey.

4 Q If you look at the previous exhibit, you had  
5 sent an E-mail on July 7th to Bernie Engel. 02:07PM

6 A Uh-huh.

7 Q And this is dated July 13th?

8 A Right.

9 Q And I can represent to you that about this  
10 time you were sending similar memos to other natural 02:07PM  
11 scientists --

12 A I remember.

13 Q -- in an effort to accurately describe the  
14 injury in the survey documents. Does the comments  
15 on this document, Exhibit 11, reflect the comments 02:08PM  
16 that came back to you from the injury scientists; do  
17 you know?

18 A Repeat the question, please.

19 (Whereupon, the court reporter read  
20 back the previous question.) 02:08PM

21 A No, I don't know. I don't know whether -- I  
22 don't know the date of the meeting with Bernie Engel  
23 that I'm referring to here. I said during their  
24 visit this week, so it would have been the week of  
25 July 8th. Whether this reflects my meeting with 02:09PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 Bernie Engel, I'm not sure. I'm not sure of the  
2 dates of the meetings and other contacts I had with  
3 the other natural scientists around this point.

4 **Q** And that's fair. I'm not asking you to  
5 remember the exact dates, but you did have some 02:09PM  
6 meetings with the natural scientists, and the  
7 purpose behind those meetings was for you to try to  
8 accurately reflect what the natural scientists were  
9 telling you in the survey documents; right?

10 **A** To the extent that the material that the 02:09PM  
11 natural scientists were providing was needed in the  
12 survey, I would say that's a fair statement.

13 **Q** And you were trying to make sure that you  
14 accurately reflected what the natural scientists  
15 were telling you in the survey documents because if 02:10PM  
16 you didn't do that, the wrong injury would be  
17 measured; correct?

18 MS. XIDIS: Objection to form.

19 **A** Repeat the question, please.

20 (Whereupon, the court reporter read 02:10PM  
21 back the previous question.)

22 **A** I would make a distinction between all the  
23 information that I got from natural scientists and  
24 the material that was ultimately included in the  
25 survey. As I've explained I think before, the 02:11PM

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**RICHARD BISHOP, PhD, 4-30-09****110**

1 process, the evolutionary process by which we were  
2 putting together a reliable survey involved a lot of  
3 give and take in focus groups about what information  
4 people wanted and what we could give them based on  
5 the natural sciences and what information was to  
6 them superfluous. So that's why I'm struggling with  
7 your question.

02:11PM

8 MR. DEIHL: Would you read the question  
9 back again, please?

10 (Whereupon, the court reporter read  
11 back the previous question.)

12 Q I don't think you answered my question.

13 A Would you read that question one more time?  
14 I'm sorry. Apparently I don't understand the  
15 question.

02:13PM

16 (Whereupon, the court reporter read  
17 back the previous question.)

18 A As I've explained before, my task was to  
19 understand the injury results as they were evolving  
20 and to accurately, if you want to use that term,  
21 provide those results, which through the focus group  
22 process, we were defining as important or necessary  
23 for the respondents to do a reliable job in doing  
24 the contingent valuation survey.

02:13PM

25 Q And, again, you wanted to accurately provide

02:13PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1       those results in the survey materials because if you  
2       didn't, you'd be measuring the wrong injury?

3       **A**       Those results --

4               MS. XIDIS: Objection to form.

5       **Q**       The results that the natural scientists were               02:14PM  
6       telling you.

7       **A**       I thought I answered that question.

8       **Q**       No, you never answered my question. My  
9       question was, if you -- if you failed to accurately  
10      reflect that information in the survey documents,               02:14PM  
11      you'd be measuring the wrong injury?

12             MS. XIDIS: Objection to form.

13      **A**       The process involved understanding what the  
14      scientists were learning and determining how to  
15      convey those results in terms that survey               02:15PM  
16      respondents could understand.

17      **Q**       With all due respect, Dr. Bishop, I didn't ask  
18      you about the process. I asked you if you didn't  
19      accurately describe in the survey documents what the  
20      natural scientists were telling you, you would be               02:15PM  
21      measuring the wrong injury; correct? It's a yes or  
22      no question. Could you please answer my question?

23             MS. XIDIS: Objection to form, and it's  
24      been asked and answered.

25             MR. DEIHL: It has not been answered.               02:15PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 MS. XIDIS: He's trying really hard to  
2 answer it. I think you phrased it in a very  
3 challenging way. There's something general and  
4 vague about your question.

5 MR. HIXON: You're coaching the witness, 02:15PM  
6 Claire.

7 MS. XIDIS: I'm not coaching him. I'm  
8 trying to get through this issue, which you are now  
9 harassing your witness with.

10 MR. DEIHL: You've made your objection. 02:16PM  
11 The witness can answer.

12 A As far as I'm concerned, I answered the  
13 question.

14 Q If the scientists were wrong, would you be  
15 measuring the wrong injury? 02:16PM

16 MS. XIDIS: Objection to form.

17 A Depends on what they're wrong about.

18 Q What injury were you trying to measure?

19 A I was not trying to measure injury.

20 Q Wasn't the purpose of your study to measure 02:16PM  
21 natural resource damages associated with excess  
22 phosphorus?

23 A I measured damages, not injuries.

24 Q And if you described the wrong injury, how can  
25 you measure damages associated from excess 02:16PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 phosphorus?

2 **A** I've explained already that I spent time  
3 trying to understand what the scientists were  
4 discovering and trying to translate it into terms  
5 that the respondents could understand to the extent 02:17PM  
6 that they needed that part of the information.

7 **Q** And I understand the process you went through.  
8 My question is, why were you doing it, which I think  
9 you've answered, and what impact did that have if  
10 you did it wrong? 02:17PM

11 MS. XIDIS: Objection to form.

12 **A** What do you mean impact?

13 **Q** What effect did it have on the validity of the  
14 willingness to pay study?

15 MS. XIDIS: Are you done with that 02:17PM  
16 question?

17 MR. DEIHL: Yes.

18 MS. XIDIS: Objection to form.

19 **A** Yeah, I don't understand why I haven't  
20 answered your question. 02:18PM

21 **Q** What was it that the natural scientists were  
22 discovering?

23 **A** A lot of things. I mean, you know, you're  
24 familiar with the injury case. There were many  
25 dimensions to the natural sciences -- scientists' 02:18PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 results.

2 Q Weren't they trying to determine whether or  
3 not there was a phosphorus problem in Tenkiller  
4 Lake, among other things?

5 A That's my understanding. 02:18PM

6 Q And weren't you trying to describe in the  
7 survey documents that problem?

8 MS. XIDIS: Objection to form.

9 A I was trying to explain what they told me in  
10 terms that respondents could understand. 02:19PM

11 Q And there's an empirical answer to the  
12 question whether or not there was a phosphorus  
13 problem in Tenkiller Lake; right?

14 A My understanding of the natural scientists'  
15 work in Tenkiller Lake was that they were trying to 02:19PM  
16 empirically verify the effects of phosphorus levels  
17 in the lake.

18 Q And they told you information about that  
19 problem; right?

20 A Yes. 02:19PM

21 Q If they were wrong about the problem and the  
22 information you received was scientifically  
23 incorrect, would you have measured the wrong injury?

24 MS. XIDIS: Objection to form.

25 A If there is information in the survey that 02:19PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 does not match what they discovered, then there  
2 would be a problem with the survey.

3 Q And you would be measuring the wrong injury;  
4 right?

5 A Well -- 02:20PM

6 MS. XIDIS: Objection to form.

7 A Measuring the wrong injury? I mean, the  
8 injury material in the survey was developed to  
9 convey to them what the scientists were discovering.

10 Q And the goal was to measure natural resource 02:21PM  
11 damages associated with excess phosphorus?

12 A That's correct.

13 Q If we assume for a moment that there wasn't  
14 any excess phosphorus in Tenkiller Lake and you told  
15 people that there was excess phosphorus in Tenkiller 02:21PM  
16 Lake, what would that do to the validity of the  
17 survey?

18 MS. XIDIS: Objection to form.

19 A You're speaking hypothetically?

20 Q I am. 02:22PM

21 A Accepting your hypothetical, sure.

22 Q Sure what?

23 A If there's not excess phosphorus in Tenkiller  
24 Lake, then the survey is incorrect in its portrayal  
25 of the problem. 02:22PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1     **A**       In the final report?

2     **Q**       Uh-huh.

3               MS. XIDIS:  Objection to form.

4     **A**       As I said, I didn't make any assumption.

5     **Q**       Did you make any assumption in the past                   02:24PM  
6       damages report?

7     **A**       I'd have to think about that a little.  No.

8     **Q**       No assumptions about recovery in the past  
9       damages report?

10    **A**       That's not what I said.  I said I didn't make           02:24PM  
11       any assumptions about the time path, what I intended  
12       to say, the time path of recovery in the final -- in  
13       the past damages report.

14    **Q**       Did it matter in terms of the amount of  
15       damages what the time path was to recovery?                   02:25PM

16               MS. XIDIS:  Objection to form.

17    **A**       Did it matter?

18    **Q**       Uh-huh.

19    **A**       Matter in what sense?

20    **Q**       Impact on willingness to pay.                           02:25PM

21    **A**       I don't think so.

22    **Q**       Did you make any assumptions about the rate of  
23       recovery over time in the river and lake?

24    **A**       In which report?

25    **Q**       In the past damages report.                           02:25PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       Repeat the question, please.

2                   (Whereupon, the court reporter read  
3       back the previous question.)

4       **A**       In the past damages report, we assumed -- let  
5       me refer to the past damages report, please.                   02:26PM

6       **Q**       I believe it's in the notebook in front of  
7       you. Is that the -- it might be in this notebook.

8                   MS. XIDIS: This is Tourangeau. It's not  
9       going to be in here.

10      **Q**       Do you have the past damages report in front                   02:26PM  
11      of you?

12      **A**       Yes. In the past damages report on Page 3,  
13      the next to the last paragraph it says, when  
14      comparing the indicators of injury in 1981 --

15      **Q**       Excuse me. What page are you reading from                   02:27PM  
16      again?

17      **A**       Page 3.

18      **Q**       Section 3, okay.

19      **A**       No, not -- I think I'm in -- the sections  
20      aren't numbered. Are you in the right report?                   02:27PM

21      **Q**       I might not be. I'm not. Thank you. Okay.  
22      Page 3, go ahead.

23      **A**       And I'm in the paragraph second from the  
24      bottom that begins when.

25      **Q**       Go ahead.   02:28PM

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**RICHARD BISHOP, PhD, 4-30-09**

**120**

1 dependent upon the damages number from the base  
2 report?

3 **A** That's correct.

4 **Q** So if the damages number in the base report  
5 were inaccurate, that would affect the damages 02:41PM  
6 number in the past damages report; correct?

7 **A** To the extent that the number -- the value per  
8 household from the past -- or from the main study,  
9 Chapman, et al, is inaccurate, that inaccuracy would  
10 carryover to the past damages report. 02:42PM

11 **Q** Let's talk again about the main survey  
12 document. You used photographs in connection with  
13 that -- the contingent valuation survey; correct?

14 **A** That's correct.

15 **Q** Would you agree with me that in certain 02:42PM  
16 circumstances photographs can be extremely useful  
17 for presenting information in a survey?

18 **A** Yes.

19 **Q** What circumstances are those in your opinion?

20 **A** In circumstances where the written material 02:43PM  
21 can be illustrated by photographs.

22 **Q** What makes the photographs useful?

23 **A** The photographs are another way of expressing  
24 information, another way compared to written  
25 material or spoken material in the case of a 02:43PM

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**RICHARD BISHOP, PhD, 4-30-09**

**121**

1 personal interview situation.

2 Q Is there any scientific literature regarding  
3 which information between a photograph and verbal  
4 information is more readily retained by respondents?

5 A In terms of specific literature, I think you'd 02:44PM  
6 need to ask one of our survey specialists, Krosnick  
7 or Tourangeau.

8 Q You don't have an opinion on that?

9 A An opinion on --

10 Q About which is retained by the typical 02:44PM  
11 respondents, a photograph or a verbal description?

12 A I think they work together.

13 Q You don't think one or the other is more  
14 compelling to a respondent?

15 A No, not as a generalization. 02:44PM

16 Q Did you participate in the selection of photos  
17 used in the survey?

18 A Yes, I did.

19 Q Tell me about how those photos were selected.

20 A We started off looking for photos that would 02:45PM  
21 illustrate some of the basic points in the problem  
22 description by reviewing photographs that were on  
23 file in Bert Fisher's office here in Tulsa, and  
24 there's a large number of photographs related to  
25 water quality in that library, and so we looked 02:45PM

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**RICHARD BISHOP, PhD, 4-30-09****122**

1 through those, looking for illustrations that would  
2 help us to convey the information we deemed was  
3 necessary.

4 **Q** Who was involved in that photo review process?

5 **A** I think in all cases I reviewed the 02:46PM  
6 photographs, and then I sent many photographs to  
7 David Chapman, who reviewed them, and we narrowed  
8 them down and presented them to the team as a whole  
9 to make decisions about which photos would do the  
10 best job for us. 02:46PM

11 **Q** Who made the decision about which photos would  
12 do the best job for you?

13 **A** The team as a whole.

14 **Q** Everyone on the team had input into the  
15 selection of the photographs? 02:47PM

16 **A** Except for Barbara Kanninen. She was not part  
17 of the team at that point.

18 **Q** In your opinion can providing some information  
19 with photos and other information only verbally lead  
20 to biases in the results if the respondents only 02:47PM  
21 remember the information associated with the photos?

22 MS. XIDIS: Objection to form.

23 **A** I wouldn't make that sort of generalization.

24 **Q** In addition to the Stratus team members, did  
25 the lawyers review the photos that were selected in 02:47PM

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**RICHARD BISHOP, PhD, 4-30-09****123**

1 the survey?

2 **A** I don't have explicit memories of reviews of  
3 the photos. As the client, they must have at least  
4 seen them.

5 **Q** You don't have a recollection of sending the 02:48PM  
6 photos to the lawyers?

7 **A** No. David Chapman served as the basic conduit  
8 for stuff that needed to be seen by the clients in  
9 the study.

10 **Q** Dr. Bishop, I've handed you what's been marked 02:48PM  
11 as Deposition Exhibit No. 12, which is an E-mail you  
12 wrote on January 7th, 2008, to David Chapman, et al.  
13 The E-mail states, David and Colleen, I don't think  
14 this is what we had in mind. We are hoping to have  
15 it on the shelf with the names of several other 02:49PM  
16 familiar herbs and spices visible. Why did you  
17 write that?

18 **A** In my earlier answer I forgot the photograph  
19 of alum on the shelf in the grocery store, and so I  
20 wrote this, evidently rejecting a photograph, and my 02:50PM  
21 best recollection is that this drew a good laugh  
22 from Boulder because the photograph was a joke.

23 **Q** What photograph was a joke?

24 **A** The photograph -- as I recall, this relates to  
25 a photograph where one of the people at Stratus was 02:50PM

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**RICHARD BISHOP, PhD, 4-30-09****124**

1 holding a jar of or a container of alum smiling, and  
2 I unfortunately took that seriously, much to my  
3 embarrassment, once they stopped laughing.

4 Q Why don't you read what you wrote in the -- in  
5 this E-mail.

02:51PM

6 A I've read it.

7 Q No. Read it aloud, please.

8 A Oh, I'm sorry. David and Colleen, I don't  
9 think this is what we had in mind. We are hoping to  
10 have it on the shelf with the names of several other  
11 familiar herbs and spices visible. It needs to be  
12 close enough so that the word alum is clearly  
13 visible but far enough away -- I'm sorry, excuse me,  
14 I misquoted -- but far enough back to show it in the  
15 context of stuff people regularly buy.

02:51PM

02:51PM

16 Q Did you recommend this because you wanted the  
17 survey respondents to think that alum was completely  
18 safe just like another spice?

19 MS. XIDIS: Objection to form.

20 A As part of the focus group process, it became  
21 evident that people were concerned about the  
22 unintended -- potential unintended consequences of  
23 alum treatments, and so I was trying to correct that  
24 so that they wouldn't be distracted by such concerns  
25 by having a picture of alum as it exists on the

02:52PM

02:52PM

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**RICHARD BISHOP, PhD, 4-30-09**

**125**

1 grocery store shelf.

2 Q Is the alum that's used on the grocery store  
3 shelf would be the same type of alum that would be  
4 used to bind phosphorus in a water body?

5 A I believe it has the same chemical makeup. 02:53PM

6 Q Did you evaluate any information about the  
7 potential harmful effects of alum on fish?

8 A I read Cooke and Welch's book in which they  
9 discuss alum treatments, and I think I looked on the  
10 web or other members of the team looked on the web 02:53PM  
11 to try to find out what's known about the harmful  
12 effects of alum.

13 Q How did you use that information?

14 A Can we refer to the survey?

15 Q Sure. 02:54PM

16 A It would be in Chapman I think; right? I'm in  
17 Volume II, Appendix A, main survey instrument.

18 Q What are you looking for, Dr. Bishop?

19 A I'm looking on Page A-15, which is the  
20 survey's description of alum, and the photograph 02:55PM  
21 that we're talking about is Card J, which also I  
22 think exists in this appendix, showing a jar of alum  
23 on the shelf, and we wrote here that alum is in many  
24 products that people use, including food, for  
25 example, alum is used to keep pickles crisp, and you 02:56PM

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**RICHARD BISHOP, PhD, 4-30-09****126**

1 can buy alum powder at the grocery store for many  
2 uses, including cooking and making Play-Doh for  
3 children. Also water treatments plants in the U.S.  
4 and other countries have used alum to clean drinking  
5 water for more than 80 years.

02:56PM

6 Then on the following page, Page A-16, third  
7 paragraph, putting alum on the land and in the water  
8 would have some undesirable effects. The alum would  
9 be a white powder on the land surface until rain --  
10 rains carry it down into the soil. After alum is  
11 put into the river and lake, it would make the water  
12 cloudy for a few hours until it settles to the  
13 bottom, and if anyone were to drink the lake water  
14 in the first hour, it might taste bitter. So that's  
15 what we told people about the effects of alum on  
16 people and fish.

02:56PM

02:57PM

17 **Q** Do you know if the injury team modeled the  
18 effectiveness of alum treatment as a technique to  
19 bind phosphorus in Lake Tenkiller and the Illinois  
20 River?

02:57PM

21 **A** Not that I know of.

22 **Q** You said earlier that you did do some reading  
23 and talk to some of the injury scientists about the  
24 potential harmful effects of alum on fish; correct?

25 **A** Correct.

02:57PM

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**RICHARD BISHOP, PhD, 4-30-09**

**129**

1 report?

2 **A** I don't remember explicitly saying that the  
3 photographs were used in focus groups, but certainly  
4 any, you know, competent set of researchers, that  
5 would be part of the focus groups. In fact, it's 03:02PM  
6 called for in the NOAA panel's report.

7 **Q** Why didn't you mention it in the Stratus  
8 report?

9 **A** As I say, it's taken for granted that we  
10 pretested the photos. 03:02PM

11 **Q** Although it's provided for by the NOAA panel,  
12 you didn't think it was important enough to mention  
13 it in the report?

14 MS. XIDIS: Objection to form.

15 **A** I mentioned it in the report. 03:02PM

16 **Q** You mentioned in the report that you --

17 **A** That we pretested the photos.

18 **Q** You do? Where did you mention that in the  
19 report?

20 **A** Let's go to Appendix H. 03:03PM

21 **Q** No, I'm not talking about in the appendix. In  
22 the report.

23 **A** Well, the appendices are part of the report.  
24 We can look in the report. I'm not sure whether the  
25 report itself -- well, wrong chapter. I'm looking 03:03PM

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**RICHARD BISHOP, PhD, 4-30-09**

130

1 for the discussion of --

2 MR. DEIHL: Claire, if you would let the  
3 witness find his own --

4 MS. XIDIS: Well, we're not actually using  
5 a full copy of the report with the appendices. 03:03PM  
6 We're trying to work out of these Chapman exhibits.  
7 So actually I'm trying to facilitate this for you on  
8 your behalf.

9 MR. DEIHL: I think the witness has the  
10 report in front of him. 03:03PM

11 A I'm looking for the section of the report that  
12 deals with compliance with the NOAA panel  
13 guidelines.

14 Q Look at Section 3.8.

15 A Section 3.8, okay. Okay. In order to reduce 03:04PM  
16 the size of Chapter 3, we did not report on our  
17 compliance -- we did not report on compliance with a  
18 complete set of NOAA panel guidelines, and what  
19 appears there is a condensation of what appears in  
20 Appendix H, which discusses all the NOAA panel 03:04PM  
21 guidelines and where I'm quite sure there's a  
22 discussion or affirmation that we pretested the  
23 photos. Are we turning to Appendix H?

24 Q No. That's all right. I take your testimony  
25 that you believe it's in Appendix H. Dr. Bishop, 03:05PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**131**

1 I've handed you what's been marked for purposes of  
2 identification as Exhibit 14.

3 **A** Yes.

4 **Q** The top of this exhibit is an E-mail from  
5 David Page to Kevin Boyle. Do you see that? 03:06PM

6 **A** Yes.

7 **Q** And then below that is an E-mail from Mr.  
8 Boyle back to David Page and copying Mr. Chapman.  
9 Do you see that?

10 **A** Yes. 03:06PM

11 **Q** E-mail was sent September 26th, 2007.

12 **A** That's correct.

13 **Q** Have you seen this E-mail before?

14 **A** I don't recall seeing this E-mail.

15 **Q** In the text of Kevin Boyle's E-mail he talks  
16 about a Boulder meeting. Do you see that? 03:06PM

17 **A** Let me read the full paragraph here.

18 **Q** Certainly.

19 **A** Okay. I've read the E-mail.

20 **Q** In the text of the E-mail Kevin Boyle refers  
21 to a Boulder meeting. 03:07PM

22 **A** Yes.

23 **Q** Do you know what meeting he's referring to?

24 **A** In general terms.

25 **Q** Were you at that meeting? 03:07PM

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**RICHARD BISHOP, PhD, 4-30-09**

**132**

1       **A**       Yes.

2       **Q**       What was discussed at that meeting?

3       **A**       We discussed, among other things, the  
4       possibility of doing a benefits transfer study to  
5       estimate past damages. 03:08PM

6       **Q**       In the text of his E-mail Kevin Boyle writes,  
7       at the Boulder meeting I supported hiring an  
8       additional consultant because I felt that experts  
9       should not be forced to testify to something they  
10      are uncomfortable with. 03:08PM

11      **A**       I see that.

12      **Q**       What were the experts uncomfortable with  
13      testifying about?

14      **A**       In September of 2007 we were at the very early  
15      stages of considering how past damages might be 03:08PM  
16      estimated, and some members of the team were  
17      concerned about drawing inferences from what we did  
18      in past damages about the validity of the main  
19      study.

20      **Q**       You said some members of the team were 03:09PM  
21      concerned about drawing inferences from what you did  
22      in past damages.

23      **A**       Uh-huh.

24      **Q**       I don't understand what you mean by that.

25      **A**       Well, presumably there's a link between past 03:09PM

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**RICHARD BISHOP, PhD, 4-30-09**

133

1 damages and future damages, and the process of  
2 benefits transfer, which is explicitly mentioned  
3 here, involves making necessary assumptions to carry  
4 out the past damage analysis, and there was concern  
5 at this point to -- there was concern at this point 03:10PM  
6 that in some ways such assumptions might in theory  
7 do something to discredit the future damages  
8 estimates.

9 Q Who was concerned about that?

10 A I recall a part of the discussion focused on 03:10PM  
11 the Montrose case where Michael Hanemann and Jon  
12 Krosnick were part of the main research team there,  
13 and it's my understanding that in the Montrose case,  
14 there was some encouragement to try to do a past  
15 damages estimate, and that the researchers in that 03:11PM  
16 case flatly refused, and so no past damages were  
17 done. I don't remember further than knowing their  
18 connection with that study and calling the decision  
19 there to our attention. I don't remember which of  
20 them was particularly concerned about this. 03:11PM

21 Q And you're talking about which of them, you're  
22 talking about Dr. Hanemann and the other team  
23 members?

24 A I'm talking about Hanemann and Krosnick.

25 Q Okay, because they were the ones involved in 03:11PM

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**RICHARD BISHOP, PhD, 4-30-09**

**134**

1 the Montrose study?

2 **A** Right.

3 **Q** Is it common to use the benefit transfer  
4 methodology to transfer willingness to pay across  
5 time? 03:12PM

6 **A** I think I answered this morning but I'll  
7 repeat, that all benefits transfers involve  
8 transferring values across time simply because  
9 you're using past studies to inform potential  
10 benefits of the action that you're doing the 03:12PM  
11 transfer for.

12 **Q** In most benefits transfer models, aren't you  
13 transferring a benefit from one geographic location  
14 to another?

15 **A** Yes, but time is inevitably involved also 03:12PM  
16 because the studies of the -- I guess it's called  
17 the study site or sites were done in the past.

18 **Q** Were you aware of any other instances where a  
19 benefits transfer methodology has been used at the  
20 same site to determine past damages? 03:13PM

21 **A** I can't cite specific studies where that's  
22 been done. I would add that it's -- in our case we  
23 felt that it made -- it made the task a relatively  
24 easy benefits transfer.

25 **Q** Other than this case, what's the maximum 03:13PM

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135

1 hindcast in terms of time that you're aware of in a  
2 benefits transfer study?

3 **A** I'd have to go back to the literature. I  
4 wouldn't, off the top of my head sitting here, know  
5 the answer to that. 03:14PM

6 **Q** Are you aware of any studies where someone has  
7 hindcasted more than ten years?

8 **A** I would have to look at the literature.

9 **Q** Sitting here today, you can't testify to any?

10 **A** I can't point you to any, no. 03:14PM

11 **Q** Is this sort of -- strike that. In your  
12 opinion is the accuracy of a benefits transfer  
13 affected by the length of time?

14 **A** Not necessarily.

15 **Q** Could it be? 03:14PM

16 **A** Anything is possible I suppose.

17 **Q** So you don't think the further back in time  
18 you go, the more inaccurate the benefits transfer is  
19 likely to be?

20 **A** I don't see any reason to assume that as a 03:14PM  
21 generalization.

22 **Q** Wouldn't it be true that the injury is  
23 unlikely to be constant over time?

24 MS. XIDIS: Objection to form.

25 **A** Do you mean in this case or -- 03:15PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 Q Just theoretically.

2 A I don't think I could generalize like that.

3 Q How about in this case?

4 A In this case the statement that I read, based  
5 on discussions with the natural scientists, 03:15PM  
6 indicated that average past damages, over a period  
7 1980 to 2008 average past damages were approximately  
8 equal to future damages over the period 2009 to  
9 2068.

10 Q Going back to the E-mail that's in front of 03:16PM  
11 you, Exhibit 14, how did the Stratus team resolve  
12 their discomfort with using the benefits transfer  
13 approach in this case?

14 A It's hard to recall the full conversation that  
15 occurred in 2007 on this topic. I think, as the 03:16PM  
16 E-mail indicates, the discussion was whether if a  
17 past damage estimate was to be made, we should hire  
18 a different consultant, and I think we resolved that  
19 to say that no one knew this study and this site as  
20 well as we did, and that if past damages were going 03:17PM  
21 to be estimated, we could do it.

22 Q And who was the we?

23 A I think David Chapman and I took the lead in  
24 that.

25 Q Dr. Bishop, I've handed you what's been marked 03:17PM

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**RICHARD BISHOP, PhD, 4-30-09**

**137**

1 as Deposition Exhibit No. 15 --

2 **A** Yes.

3 **Q** -- which is a series of E-mails, and I'd like

4 to direct your attention to the bottom E-mail on

5 Page 1. That's an E-mail from David Page to you, 03:18PM

6 among others; correct?

7 **A** Correct.

8 **Q** Now, who is David Page?

9 **A** As I've testified previously, he's one of the  
10 attorneys in this case. 03:18PM

11 **Q** Okay. In this E-mail Mr. Page writes, Bernie  
12 Engel and Scott Wells are prepared to run their  
13 respective models on the effects of a moratorium on  
14 land application. Do you see that?

15 **A** Yes. 03:18PM

16 **Q** What respective models were they running?

17 **A** Bernie Engel modeled the watershed and the  
18 Illinois River and Scott Wells modeled Lake  
19 Tenkiller.

20 **Q** Were these fate and transport models? 03:19PM

21 **A** I am not familiar with -- I don't recall,  
22 having read their reports, what form the models  
23 took.

24 **Q** When he writes the effects of a moratorium on  
25 land application, he's talking about a ban on 03:19PM

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**RICHARD BISHOP, PhD, 4-30-09**

**138**

1 poultry litter; right?

2 **A** Yes.

3 **Q** Prior to including a ban in their models, what  
4 did the model show; do you know?

5 **A** I don't know. 03:19PM

6 **Q** Do you know how the modeling changed when a  
7 litter ban was included?

8 **A** My recollection is that this E-mail was done  
9 as they were approaching the final stages, and I  
10 have not seen any of the model runs. 03:20PM

11 **Q** Did you ever see model runs without a litter  
12 ban in place?

13 **A** No. Well, let me back up. I think both  
14 Engels and Wells include several scenarios, at least  
15 a few scenarios, other than a complete moratorium in  
16 their models. 03:20PM

17 **Q** And did you review those other scenarios?

18 **A** I read the reports of Engel and Wells, et al.

19 **Q** Did the modeling show that the litter ban  
20 failed to improve water clarity? 03:21PM

21 **A** Can you read the question again, please?

22 (Whereupon, the court reporter read  
23 back the previous question.)

24 **A** I don't think that's a correct  
25 characterization of the model results. 03:21PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

139

1 Q Do you know if the models accounted for the  
2 alum program?

3 A To the best of my recollection -- to the best  
4 of my recollection, there was no mention of alum in  
5 their analysis.

03:21PM

6 Q Now, we've talked about how you were  
7 responsible for helping prepare the survey document  
8 and assuring that the survey document was accurate.  
9 Did you peer review the survey document?

10 A I believe the survey document was peer  
11 reviewed.

03:22PM

12 Q Who were the peer reviewers?

13 A We had -- at this point the only peer reviewer  
14 that I know of would be Kerry Smith.

15 Q Do you know Mr. Smith?

03:22PM

16 A Yes.

17 Q He's well respected in the field?

18 A Yes.

19 Q What's the purpose of peer reviewing?

20 A To obtain an outside opinion at arm's length  
21 about the -- in this case about the survey  
22 instrument and whether the reviewer has any  
23 questions or concerns about it that can be corrected  
24 before the survey is administered.

03:22PM

25 Q Who picked the peer reviewers in this case?

03:23PM

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**RICHARD BISHOP, PhD, 4-30-09**

**140**

1       **A**       I don't know.

2       **Q**       Were you involved in that decision?

3       **A**       I don't know. No, we wouldn't have picked the  
4       peer reviewers.

5       **Q**       Okay. Why do you say we wouldn't have? 03:23PM

6       **A**       Well, you're trying to get an arm's length  
7       peer review. You might ask the researchers for a  
8       set of potential names of peer reviewers, but you  
9       wouldn't choose the peer reviewer.

10      **Q**       Okay. So you don't know who chose Mr. Smith 03:23PM  
11      as a peer reviewer?

12      **A**       No.

13      **Q**       Dr. Bishop, I've handed you what's been marked  
14      as Deposition Exhibit No. 16, which came out of your  
15      considered by materials. 03:24PM

16      **A**       Uh-huh.

17      **Q**       Do you know whose handwriting appears on this  
18      document?

19      **A**       I believe this is my handwriting.

20      **Q**       Can you identify what this document is? 03:24PM

21      **A**       This document is a written peer review of the  
22      Pilot 1 Survey.

23      **Q**       In addition to peer reviewing the Pilot 1  
24      Survey, you also peer reviewed the final survey  
25      documents or no? 03:25PM

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**RICHARD BISHOP, PhD, 4-30-09**

**141**

1       **A**       I didn't peer review --

2       **Q**       Not you, but was a peer review done of the  
3       survey documents?

4       **A**       Which one?

5       **Q**       The final base survey. 03:25PM

6       **A**       The final base survey, I don't recall whether  
7       one was done at that point or not.

8       **Q**       Okay. Other than this peer review, are you  
9       aware of any other peer reviews that were done  
10      sitting here today? 03:25PM

11      **A**       There was a second peer reviewer, but I had no  
12      contact with that individual, a specialist in survey  
13      methodology, and I had no contact with him or any  
14      written peer review from him.

15      **Q**       There's a phone number at the top of the page, 03:25PM  
16      Vic. Do you know who that is?

17      **A**       Yes.

18      **Q**       Who?

19      **A**       I would say that refers to Vic Adamovich, a  
20      professor at University of Alberta. 03:26PM

21      **Q**       And this document, this Exhibit 16, is the --  
22      is Dr. Kerry's peer-review comments on the Pilot 1  
23      chicken scenario; is that correct?

24      **A**       Dr. Smith.

25      **Q**       I'm sorry, Dr. Smith. Thank you. 03:26PM

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**RICHARD BISHOP, PhD, 4-30-09**

**142**

1       **A**       Yes.

2       **Q**       If you take a look at the first section, Key  
3       and Problematic Themes; do you see that?

4       **A**       Uh-huh.

5       **Q**       Dr. Kerry believed a key and problematic theme                   03:26PM  
6       was inconsistency between very specific and very  
7       vague statements of information for elements of the  
8       scenario that are equally important.

9       **A**       Dr. Smith.

10      **Q**       I'm sorry. I keep misspeaking. Thank you.                   03:26PM  
11      Is that what Dr. Smith said?

12      **A**       Well, let me explain the peer review process a  
13      little more.

14      **Q**       Okay.

15      **A**       He certainly said these things, and I recall                   03:27PM  
16      at least one telephone call where we discussed them.

17      In doing such peer reviews, and I've done many  
18      myself, one brings a fresh look at materials that  
19      one perhaps hasn't been a party to producing. In  
20      fact, that's what makes it a fresh review, and one                   03:27PM

21      also probes for weaknesses or ways that the survey  
22      could be improved, and it's in that spirit that  
23      these initial comments were made, and this is, you  
24      know, a normal process in an important survey like  
25      this to enhance the reliability of the final survey.                   03:28PM

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**RICHARD BISHOP, PhD, 4-30-09****143**

1       **Q**       How did you take Dr. Smith's comments into  
2       account in designing the final survey?

3       **A**       We did several things to -- well, let me back  
4       up. In the process of this telephone call, we were  
5       able to have further discussion with Dr. Smith about       03:28PM  
6       the points he made in this peer review, and in some  
7       cases we afterwards decided to modify the survey.  
8       In other cases we were able to explain the  
9       situation, the development of the survey, and our  
10      thinking behind what we had done and, as I said, he       03:29PM  
11      was probing for potential weaknesses, and I think he  
12      was satisfied that there was not a weakness where he  
13      thought there might be one. So we can go through  
14      the memo and I can talk about things we did to the  
15      survey if you'd like.       03:29PM

16      **Q**       So you had a phone conversation with Dr.  
17      Smith?

18      **A**       We had -- yes. Members of the team -- I'm not  
19      sure that all members were present for this  
20      conversation but several of us were.       03:29PM

21      **Q**       Was there just a single phone conversation?

22      **A**       I only remember -- I only remember one for  
23      sure. There may have been a later one that I wasn't  
24      a part of or other interaction with Dr. Smith. I  
25      just don't know. It may be that I forgot a second       03:30PM

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**RICHARD BISHOP, PhD, 4-30-09****144**

1 conversation.

2 Q One of the items that Dr. Smith was concerned  
3 about under Key and Problematic Themes was is  
4 everything factually correct and supportable from  
5 historical conditions to the injury to the 03:30PM  
6 restoration plan to the recovery time. Do you see  
7 that?

8 A Uh-huh.

9 Q And it was your job, was it not, to make sure  
10 that everything was factually correct and 03:30PM  
11 supportable from historical conditions?

12 A That's correct.

13 Q You'd agree with Dr. Smith that everything  
14 should be factually correct and supportable from  
15 historical conditions to the injury to the 03:30PM  
16 restoration plan and to the recovery time; right?

17 MS. XIDIS: Objection to form.

18 A Well, there's a bit of an issue here with his  
19 term everything. I think he's referring to -- at  
20 least I took it as his referring to the description 03:31PM  
21 of the problem and, you know, to the extent it was  
22 possible to make things factually correct, we did  
23 so.

24 Q At the bottom of this first page, numbered  
25 Comment 6 -- 03:31PM

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**RICHARD BISHOP, PhD, 4-30-09**

**145**

1       **A**       Uh-huh.

2       **Q**       -- he writes, there are no data collected on  
3 recreation use specifically. Do you see that?

4       **A**       Yes.

5       **Q**       Did you evaluate recreational use data? 03:31PM

6       **A**       No.

7       **Q**       Why not?

8       **A**       As I said, my task was to help decide and  
9 then -- help to decide what we recommended to the  
10 State as the appropriate way of conducting a damage 03:32PM

11 assessment. As I testified this morning, we  
12 recommended to the State that the appropriate way to  
13 address damages in this case from our point of view  
14 as scientists was to do the contingent valuation  
15 study. So that was the part I played a role in. I 03:32PM  
16 did not play a role in recreation.

17       **Q**       Did anyone evaluate recreational use data on  
18 the Stratus team?

19       **A**       Well, I think you've seen our intercept survey  
20 that we discussed this morning, and so there were 03:33PM  
21 team members using looking at recreational use.

22       **Q**       Did you look at information, for example, from  
23 the Army Corps of Engineers on recreation use at  
24 Tenkiller Lake?

25       **A**       I think some of those overheads or PowerPoint 03:33PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09****146**

1 presentations that you showed me this morning from  
2 2004 included such data.

3 Q How did you take that data into account in  
4 your valuation study?

5 A They turned out to not be relevant to our 03:33PM  
6 valuation study.

7 Q Why would Dr. Smith think that this was  
8 something to investigate if it wasn't relevant to a  
9 reliable contingent valuation study?

10 A In some cases, the Green Bay damage assessment 03:33PM  
11 being one, the Clark Fork River case being another,  
12 both total value and recreational value studies are  
13 done, and so he may be thinking of those cases where  
14 both types of studies were done. In this -- and you  
15 need to understand that recreation demand modeling 03:34PM  
16 is one of Dr. Smith's favorite topics.

17 Q Dr. Smith writes, what if poultry industry  
18 brings forward an argument that use has not changed  
19 or increased. Do you see that?

20 A I see that. 03:34PM

21 Q That's, in fact, true, isn't it, that use has  
22 in fact increased at Lake Tenkiller?

23 MS. XIDIS: Objection to form.

24 A I believe that over recent years use of  
25 Tenkiller Lake has increased. 03:35PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**147**

1       **Q**       And how come you didn't take that into account  
2       in your contingent valuation survey?

3       **A**       Well, I think we specifically told our  
4       respondents that Tenkiller Lake and the Illinois  
5       River are popular recreation sites. We thought that       03:35PM  
6       was enough information. The fact that recreation  
7       has gone up or down recently was not information  
8       that they needed.

9       **Q**       You mentioned that in the Fox River site, for  
10      example, both types of damage assessments were done,       03:35PM  
11      recreation studies as well as CV studies.

12      **A**       Uh-huh.

13      **Q**       Why were both types of damage assessments done  
14      in those cases but not here?

15      **A**       I don't know. I was not party to those       03:36PM  
16      decisions.

17      **Q**       That was the decision that was made by the  
18      lawyers?

19      **A**       The decisions in the Green Bay case and the  
20      Clark Fork River case I was not party to the       03:36PM  
21      decisions to do both recreation and total value.

22      **Q**       Why did you make the decision here not to do  
23      recreation?

24      **A**       To some extent recreation and -- recreational  
25      values and non-use values -- I'm getting ahead of       03:37PM

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**RICHARD BISHOP, PhD, 4-30-09****148**

1 myself. To some extent, the results of recreation  
2 demand studies or continued valuation studies  
3 focusing on recreational impacts and studies of  
4 total valuation overlap, and so there's an argument  
5 to be made that it's redundant to do an extra  
6 recreation study and expensive.

03:37PM

7 **Q** Aren't recreation studies used to confirm  
8 contingent valuation studies' estimates or are they  
9 done in addition to contingent valuation damage  
10 estimates?

03:37PM

11 MS. XIDIS: Objection to form.

12 **A** Confirm? I don't understand confirm.

13 **Q** Do recreation studies corroborate CV studies'  
14 estimates or are they done in addition to CV damage  
15 estimates?

03:38PM

16 MS. XIDIS: Objection to form.

17 **A** Would you read the question again for me?

18 (Whereupon, the court reporter read  
19 back the previous question.)

20 **A** Since total value includes both use and  
21 non-use values, doing both -- well, since use values  
22 are included in total value studies, the hypothesis  
23 would be that the recreation values ought not to be  
24 larger than the total values, and in that sense, you  
25 could use a valuation, a recreation valuation study

03:38PM

03:39PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**149**

1 as a rough validity test. You would feel that your  
2 contingent valuation study is underestimating the  
3 value if you get a larger recreational value or your  
4 recreational study value is wrong.

5 Q Conversely, your contingent valuation study 03:39PM  
6 could be wrong if the recreation study shows a  
7 significantly different result for use values;  
8 right?

9 MS. XIDIS: Objection to form.

10 A Can you repeat the question? 03:40PM

11 (Whereupon, the court reporter read  
12 back the previous question.)

13 A In doing total value studies, we don't attempt  
14 to separate out recreation values.

15 Q I think we need a tape change. 03:40PM

16 VIDEOGRAPHER: We are now off the Record.  
17 The time is 3:39 p.m.

18 (Following a short recess at 3:39 p.m.,  
19 proceedings continued on the Record at 3:49 p.m.)

20 VIDEOGRAPHER: We are back on the Record. 03:50PM  
21 The time is 3:49 p.m.

22 Q Dr. Morey or -- Dr. Morey, I'm sorry. Dr.  
23 Bishop. I spent a day with Dr. Morey.

24 A I understand.

25 Q I apologize for mixing your name up. 03:51PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       No.

2       **Q**       Dr. Bishop, in your experience what are the  
3       differences in magnitude of damages estimated by  
4       contingent valuation studies versus recreation  
5       studies for the same site?

03:51PM

6               MS. XIDIS: Objection to form.

7       **A**       Contingent valuation study as designed to  
8       measure recreational values or total values?

9       **Q**       Designed to measure recreational values.

10      **A**       I haven't seen a recent comparison. The older  
11      ones would indicate that they get values at roughly  
12      the same magnitude with some variation. Some are --  
13      some contingent valuation studies are higher, some  
14      are lower than recreation demand studies using the  
15      travel cost method.

03:51PM

03:52PM

16      **Q**       But the magnitude is typically the same?

17      **A**       On average.

18      **Q**       Going back to Deposition Exhibit No. 16, under  
19      the general comments on the first page --

20      **A**       Uh-huh.

03:52PM

21      **Q**       -- one of Dr. Smith's comments, Comment No. 1  
22      was, have you considered oversampling in rural areas  
23      or the study area; do you see that?

24      **A**       Yes.

25      **Q**       Do you know why Dr. Smith suggested that you

03:53PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

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1 consider oversampling in rural areas?

2 **A** I think you can see in the margin my note why  
3 with a question mark, and I don't recall, you know,  
4 this being discussed during the phone call, but we  
5 must have discussed all the points in this memo, and  
6 I don't think he made a convincing argument for  
7 doing that.

03:53PM

8 **Q** Take a look at Page 3 of this exhibit, please.  
9 Dr. Kerry's Comment No. 19, do you see that?

10 **A** Dr. Smith.

03:53PM

11 **Q** Dr. Smith's Comment No. 19, do you see that?

12 **A** Yes.

13 **Q** He states, is the resolution of photographs  
14 portraying algae how it really looks in the water on  
15 a typical day; how are you adjusting for sunlight?  
16 How did you take that comment into account?

03:54PM

17 **A** I think we assured him that we thought the  
18 photographs we were using conveyed what we were  
19 trying to convey, which was simply a rough idea to  
20 support the verbal -- the written or spoken in the  
21 case of their use, the spoken descriptions.

03:54PM

22 **Q** Further on down this same page, Comment No.  
23 27, Dr. Smith states, need a graphic showing how  
24 chicken numbers have changed over time. What does  
25 increasing numbers of chickens and turkeys mean

03:54PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09****152**

1 relative to the 150 million dollar number? How did  
2 you take that comment into account?

3 **A** Again, I see my handwritten note in the  
4 margin. It may be difficult to read, but it says  
5 worth the space, why, question mark, and I think we  
6 did not add such a graphic. We did not think it was  
7 necessary.

03:55PM

8 **Q** At the bottom of that page, Comment No. 29,  
9 Dr. Smith writes, how confident are you in factual  
10 information? A real problem if not all information  
11 can be provided at the same level of precision. Do  
12 you see that?

03:55PM

13 **A** Uh-huh.

14 **Q** And you wrote yes next to that; do you see  
15 that?

03:55PM

16 **A** Uh-huh.

17 **Q** You'd agree with Dr. Smith that it can be a  
18 real problem if not all the information can be  
19 provided with the same level of precision?

20 **A** I think I was agreeing that -- I think my yes  
21 is an answer to his question, how confident are you  
22 in the factual information. I don't know what he  
23 means by this.

03:56PM

24 **Q** Okay. Well, he says on the following

25 sentence, for example, you know the chicken numbers

03:56PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 but do not know the number of fish kills. Is there  
2 evidence to back up your fish kill statement?

3 **A** Yeah. At that point the survey included a  
4 note that there were fish kills on the Illinois  
5 River, and it was subsequently decided that, again 03:56PM  
6 through my corroboration with the scientists on the  
7 project, that fish kills are very difficult to  
8 document, count, and that we didn't -- and that we  
9 shouldn't mention fish kills because of lack of  
10 scientific information. 03:57PM

11 **Q** In Comment 33 you wrote or Dr. Smith wrote,  
12 what happens if the injunction fails?

13 **A** Uh-huh.

14 **Q** And your handwriting, can you read your  
15 handwriting next to that, please? 03:57PM

16 **A** My handwriting says do they understand the  
17 underlying strategy, that is to say, a moratorium --  
18 let me back up and be a little more -- and give a  
19 little more explanation about the strategy here.

20 All valuation exercises, regardless of whether they 03:57PM  
21 involve contingent valuation, other stated  
22 preference methods or revealed preference methods,  
23 involve valuation compared to a baseline, and the  
24 baseline for our evaluation of future damages was  
25 conditions in the river and lake after a moratorium 03:58PM

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**RICHARD BISHOP, PhD, 4-30-09****154**

1 was in place, and so our scenario, as it was put  
2 together, was not dependent on an injunction, and  
3 I'm quite sure I explained the rationale for the  
4 injunction in the phone call with Kerry Smith.  
5 They, in fact, didn't understand the underlying  
6 strategy.

03:58PM

7 **Q** Your scenario assumed that a moratorium had  
8 been put in place; correct?

9 MS. XIDIS: Objection to form.

10 **A** Our scenario stated that the State was -- let  
11 me read the exact wording. I'll tell you -- I'm in  
12 Appendix A and I'll tell you where I'm looking in a  
13 moment. I'm on Page A-14 in the middle of the page,  
14 a paragraph starting with the State has asked. The  
15 State has asked a federal court to stop all future  
16 spreading of poultry litter on land around the river  
17 and lake. The court is expected to make a decision  
18 about the ban by the end of the year. The ban would  
19 immediately stop spreading in both Oklahoma and  
20 Arkansas. So that's what we said to introduce the  
21 idea of a ban on spreading of poultry litter.

03:58PM

04:00PM

04:00PM

22 **Q** Why did you choose to mention the injunction  
23 in the injury description?

24 **A** We're making the transition here from the  
25 description of the injury to the description of the

04:00PM

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**RICHARD BISHOP, PhD, 4-30-09**

155

1 solution.

2 Q This isn't a description of a solution; this  
3 is a description of the injury; right?

4 A Before we can describe the solution, we have  
5 to lay out the baseline for valuation, which, as I 04:01PM  
6 explained, is recovery of the river and lake under a  
7 ban.

8 Q And if the court did not issue an injunction,  
9 what impact would that have on the willingness to  
10 pay number? 04:01PM

11 MS. XIDIS: Objection to form.

12 A I don't know. We didn't do a survey to find  
13 that out.

14 Q Okay. So this survey assumes that the court  
15 is going to issue an injunction? 04:01PM

16 MS. XIDIS: Objection to form.

17 A In order to establish the baseline for  
18 valuation, we told respondents that the State was  
19 asking for a ban as I just read and that if that ban  
20 was not in place, then alum treatments would not be 04:02PM  
21 done and they would not be charged.

22 Q Take a look a little further down the page  
23 on -- I'm sorry, on the previous page, Comment No.  
24 26, do you see that?

25 A Yes, I see it. 04:02PM

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**RICHARD BISHOP, PhD, 4-30-09**

156

1       **Q**       Dr. Smith wrote some respondents may be  
2       currently given the impression that the waters have  
3       been destroyed and this is causing the higher than  
4       expected proportions of yes responses to the  
5       valuation question; do you see that? 04:02PM

6       **A**       Yes.

7       **Q**       Would a higher than expected proportion of yes  
8       responses increase the willingness to pay number?

9               MS. XIDIS: Objection to form.

10      **A**       Other things being equal, yes. 04:03PM

11      **Q**       What did you change in the survey in response  
12      to this comment by Dr. Smith?

13      **A**       I think in this case we assured Dr. Smith that  
14      this was not a problem.

15      **Q**       How did you assure Dr. Smith this was not a 04:03PM  
16      problem?

17      **A**       By calling attention to what we had learned in  
18      the focus groups about people's understanding of the  
19      problem.

20      **Q**       So you assumed that Dr. Smith was incorrect in 04:03PM  
21      this statement that he made?

22      **A**       I didn't assume.

23               MS. XIDIS: Objection to form.

24      **A**       I concluded.

25      **Q**       Okay. You concluded that Dr. Smith's opinion 04:03PM

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**RICHARD BISHOP, PhD, 4-30-09**

**157**

1 was incorrect?

2 **A** Yes.

3 **Q** If Dr. Smith had the impression that some  
4 respondents may think that the waters have been  
5 destroyed, how can you distinguish that impression 04:05PM  
6 that Dr. Smith had from the respondents' impression?

7 MS. XIDIS: Object to form.

8 **Q** Isn't it possible that the respondents would  
9 have had the same impression as Dr. Smith?

10 MS. XIDIS: Objection to form. 04:05PM

11 **A** As I explained when we started the discussion  
12 of this peer review, peer reviews often involve  
13 probing, asking and then being satisfied that your  
14 concern or point has already been covered, and in  
15 this case, as I said, we concluded that this point 04:05PM  
16 was not valid.

17 **Q** How did you conclude that?

18 **A** Based on focus groups and one-on-one  
19 interviews that had been conducted as part of the  
20 long and rigorous process of developing the survey. 04:06PM

21 **Q** Do you think that the respondents' willingness  
22 to pay might have been different if no mention had  
23 been made of a possible injunction in the survey  
24 documents?

25 MS. XIDIS: Objection to form. 04:06PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       Let's have the question again, please.

2                       (Whereupon, the court reporter read  
3 back the previous question.)

4       **A**       In order to do a valuation study, any  
5 valuation study, one needs to establish this                       04:07PM  
6 baseline that I mentioned in my earlier testimony,  
7 and this is the baseline on which the respondents to  
8 our survey made the decision. I can't imagine --  
9 you know, to say, well, it's not mentioned, well,  
10 something needs to be established as a baseline. So                       04:07PM  
11 I can't answer your question in general.

12       **Q**       The purpose of the contingent valuation survey  
13 was to present an injury and then present a solution  
14 to that injury; correct?

15       **A**       That's correct.   04:07PM

16       **Q**       And the injury here was the increased level of  
17 phosphorus in the Illinois River watershed; correct?

18       **A**       The -- well, that's at a minimum a  
19 simplification. The injury involved effects on  
20 aesthetics and effects on the ecosystem as we point                       04:08PM  
21 out.

22       **Q**       Well, in your report you define injuries as  
23 the deleterious chemical, physical and biological  
24 effects of excess phosphorus on water quality in the  
25 Illinois River system, including Tenkiller Lake;                       04:08PM

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**RICHARD BISHOP, PhD, 4-30-09**

**159**

1 right?

2 **A** Yes.

3 **Q** The injunction was not part of the solution in  
4 this case; correct?

5 MS. XIDIS: Objection to form. 04:08PM

6 **A** I think I've answered that question already.  
7 The injunction was necessary to set up the baseline  
8 of injuries so that the valuation exercise could be  
9 conducted.

10 **Q** When you say the baseline of injuries, what do 04:08PM  
11 you mean?

12 **A** Baseline of injuries means the injuries to  
13 aesthetics and ecosystems that we discussed in the  
14 survey.

15 **Q** And so the baseline of injuries in this case 04:09PM  
16 was the injuries that occurred after the court had  
17 entered an injunction?

18 **A** That's right. These are future damages.

19 **Q** If the court did not enter an injunction, you  
20 are measuring a baseline of injuries that would 04:09PM  
21 never occur; correct?

22 MS. XIDIS: Objection to form.

23 **A** If you -- if the court did not -- does not  
24 issue an injunction to stop the spreading of poultry  
25 litter, then our estimate of damages would likely be 04:10PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 a gross underestimate.

2 Q But you haven't measured what it would be?

3 A We haven't measured what it would be.

4 Q Doesn't referring to the injunction in the  
5 survey documents suggest that the court thought the  
6 poultry industry had done something wrong?

04:10PM

7 MS. XIDIS: Objection to form.

8 A All we said was that the State had asked for  
9 an injunction.

10 Q How in your opinion did the respondents weigh  
11 the information that it was the State of Oklahoma  
12 that was doing the study?

04:10PM

13 A I don't know what you mean by the term weigh.

14 Q Do you think it was important to the  
15 respondents that it was the State of Oklahoma that  
16 was sponsoring your survey?

04:11PM

17 A Yes.

18 Q How do you think that impacted their  
19 willingness to pay number?

20 MS. XIDIS: Objection to form.

04:11PM

21 A I don't know.

22 Q You've said that you thought it was important  
23 to the respondents. What do you base that opinion  
24 on?

25 A A frequently asked question when you

04:11PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 administer surveys to people is who is sponsoring  
2 the study, and it's a very legitimate question on  
3 their part, and this mention was simply a truthful  
4 statement that the State was sponsoring the study.

5 How it affected willingness to pay, as I say, I 04:12PM  
6 don't know. How it affected the response rate, it's  
7 generally thought that it increases -- it improves  
8 the overall response rate.

9 Q Did you talk to Vic about the peer-review  
10 comments? 04:12PM

11 A I have no idea what that note at the top  
12 means.

13 Q Okay. Dr. Bishop, I've handed you what's been  
14 marked as Deposition Exhibit No. 17. Do you have  
15 that in front of you? 04:13PM

16 A Yes.

17 Q This is a memo from you to David Page; is that  
18 right?

19 A That's correct.

20 Q Why did you send this to David Page? 04:13PM

21 A As I testified this morning, David Page was  
22 involved from the beginning in terms -- from the  
23 beginning of my participation as one of the  
24 attorneys that I worked most closely with, and I  
25 also knew that David Page worked closely with the 04:14PM

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**RICHARD BISHOP, PhD, 4-30-09****162**

1 natural scientists, and so he was serving as a  
2 liaison for that purpose.

3 Q He was serving as a liaison for what purpose?

4 A Liaison between the scientists and us, to try  
5 to help us answer the questions we raise in this 04:14PM  
6 memo.

7 Q Okay. Now, earlier we looked at some memos  
8 that you had written directly to the natural  
9 scientists and we talked about conversations you had  
10 had with the natural scientists. 04:14PM

11 A Yes.

12 Q Why was Mr. Page serving as a liaison between  
13 the economics team and the natural scientists at  
14 this point in time?

15 A I continued to interact through the process 04:14PM  
16 right up until January 2009 with the scientists. I  
17 had full access to them to gain their help in  
18 carrying out the activities that I've already  
19 described that were necessary, as I've said, to  
20 establishing a reliable survey. 04:15PM

21 In this case I was simply calling on  
22 David's -- David Page's knowledge of what was going  
23 on in the natural sciences to help us review this  
24 material and be sure that it was a correct  
25 interpretation of what was happening -- what was 04:15PM

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**RICHARD BISHOP, PhD, 4-30-09****163**

1 being learned.

2 **Q** Take a look at Page 3 of this May 3rd, 2008  
3 memo. You state or -- you state in the middle of  
4 the page, this raises a number of questions; do you  
5 see that?

04:16PM

6 **A** Uh-huh.

7 **Q** And Question No. 1, is 1960 a good base year  
8 for us to use?

9 **A** Uh-huh.

10 **Q** How did you answer this question that you  
11 raised?

04:16PM

12 **A** We settled on 1960 as a base year based on the  
13 advice of the natural scientists. As you may have  
14 noted, in some earlier drafts of the survey we used  
15 the year 1970, and the natural scientists indicated  
16 to me and to us that they suspected that there was  
17 substantial injuries in 1970 -- by 1970, and then I  
18 think, you know, I reviewed with them, well, if we  
19 go to 1960, would that be a better year to use for  
20 baseline purposes, and the conclusion was that based  
21 on what they knew about the watershed and the number  
22 of chickens and turkeys and the number of human  
23 inhabitants, et cetera, that 1960 was going back far  
24 enough to have excellent water conditions in terms  
25 of aesthetics and ecoregions.

04:17PM

04:17PM

04:18PM

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**RICHARD BISHOP, PhD, 4-30-09**

**164**

1       **Q**       What did they base that the water in 1960 had  
2       excellent water conditions in terms of aesthetics  
3       and ecosystems?

4       **A**       I think, as I said, they judged that based on  
5       the estimated number of chickens and turkeys and  
6       other sources of phosphorus, that those sources were  
7       small enough that the aesthetic and ecosystem  
8       impacts that they identified in their work would  
9       have been substantially less.

04:18PM

10       **Q**       Now, this document that we're reading is a  
11       document that you wrote to David Page. Did the  
12       attorneys have input into the decision that 1960 was  
13       a good base year to use?

04:19PM

14       **A**       I recall no discussions of that issue.

15       **Q**       Okay. You wrote this memo to David Page and  
16       you didn't have any follow-up discussions with him  
17       about that issue?

04:19PM

18       **A**       Usually when I ask these kind of questions to  
19       David Page, he says ask the scientists.

20       **Q**       Okay. Well, you indicated earlier that the  
21       lawyers decided that a contingent valuation study  
22       was chosen in this case over other methods. Was it  
23       Mr. Page who made that decision?

04:19PM

24               MS. XIDIS: Objection to form.

25       **A**       I think what I testified was that the team

04:19PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 considered the evidence that I've talked about in  
2 developing its recommendation, that based on our  
3 judgment as researchers in the field, that the  
4 appropriate approach to take for damage assessment  
5 in this case would involve a total valuation study  
6 done by the contingent valuation method. The  
7 attorneys, being the clients, the State of Oklahoma  
8 in particular being the clients, clients always  
9 either authorize or don't authorize what we  
10 recommend, but that's what we recommended.

04:20PM

04:20PM

11 **Q** I don't think that's what you said earlier,  
12 but we'll let the Record stand as it is.

13 In terms of picking 1960 as the year, why  
14 didn't you pick 1955?

15 **A** As I say in the third sentence of that  
16 paragraph and, again, I was going over this memo --  
17 let me back up. This memo is dated May 3rd, 2008,  
18 so we were fairly along in the process, and I wanted  
19 to check out one more time several of these issues,  
20 and I raised the 1960 date. Now, the -- 1960 went  
21 back far enough that we had no trouble with  
22 potential survey respondents wondering whether it  
23 was really that good back then, and so 1960 was as  
24 far as we needed to go back to do that. As I said,  
25 we decided that 1970 was less appropriate because

04:21PM

04:21PM

04:22PM

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**RICHARD BISHOP, PhD, 4-30-09****166**

1 of -- because of the injuries that the scientists  
2 suspected were there in 1970.

3 Q When you say you picked 1960 because you had  
4 no trouble with potential survey respondents  
5 wondering whether it was really that good back then,  
6 what did you mean?

04:22PM

7 A That was a bit colloquial, wasn't it? Let me  
8 try to rephrase that in more scientific terms. 1960  
9 is part of the discussion in the survey about the  
10 evolution of the problem, and we wanted respondents  
11 to understand that since the 1950s, the poultry  
12 industry had grown and, in fact, we say that in the  
13 survey. It had grown a lot, but that, you know, by  
14 1960 there were minimal impacts, and so it gave us  
15 -- it served as an easy reference point for us for  
16 when the problems of excess algae on aesthetics and  
17 the ecosystem were minimal.

04:22PM

18 Q You didn't really want people remembering what  
19 the water quality was back in 1960, did you?

20 MS. XIDIS: Objection to form.

04:23PM

21 A I don't understand what you're getting at.

22 Q You didn't want the problem of survey  
23 respondents saying to you, oh, I remember Lake  
24 Tenkiller in 1960 and the water was really lovely  
25 back then or the water was really polluted back

04:24PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 then; you wanted a date in time when the respondents  
2 couldn't really remember what the water quality was  
3 like; isn't that right?

4 MS. XIDIS: Objection to form.

5 **A** I don't think that's a very good way to 04:24PM  
6 portray it. They needed -- we were telling them  
7 about the evolution of the problem, and we needed a  
8 point in time which -- where they would believe that  
9 the water quality was pristine. It allowed us then  
10 later in the survey to talk about returning to 1960 04:24PM  
11 conditions, and it was introduced there as part of  
12 the scenario about how the problem developed and as  
13 part of the baseline for evaluation.

14 **Q** Why didn't you pick 1750? You knew that the  
15 water quality was pristine in 1750. 04:25PM

16 MS. XIDIS: Objection to form.

17 **A** Why would I do that?

18 **Q** Why wouldn't you do that?

19 MS. XIDIS: Objection to form.

20 **Q** Did you have any data to support the quality 04:25PM  
21 of the water in 1960?

22 **A** As I said, this 1960 is based on the advice of  
23 the injury scientists and the data and other  
24 analyses that they had before them.

25 **Q** Do you know when The Clean Water Act was 04:25PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 enacted in the United States?

2 **A** I don't remember.

3 **Q** Do you know if it was before or after 1960?

4 **A** I don't remember.

5 **Q** A little further down on the same page we've 04:25PM  
6 been looking at, again, these are questions you were  
7 raising with Mr. Page. No. 3 you write, are our  
8 pictures consistent with how the scientists would  
9 describe the injuries. Do you see that?

10 **A** Yes. 04:26PM

11 **Q** What results would there be if the pictures  
12 were inconsistent with how the scientists would  
13 describe the injuries?

14 MS. XIDIS: Objection to form.

15 **A** As I've explained, the pictures are an 04:26PM  
16 integral part of explaining the problem to survey  
17 respondents, and as I've also testified, the  
18 statements that we make in the survey about the  
19 problem need to be consistent with the science.

20 **Q** Your Question No. 6 refers to a 10 -- at least 04:27PM  
21 10-foot level as baseline level of water clarity for  
22 the lake. How did you select the 12-foot level?

23 **A** Question 6 says is at least 12 feet, not 10  
24 feet --

25 **Q** I agree. 04:27PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       -- as baseline level, and that question I  
2       remember reviewing carefully with Welch, and Cooke  
3       may have been in on the conversation. I think they  
4       were both present, yes, they were both present, and  
5       subsequently it was changed to 10 feet based on 04:28PM  
6       their judgment that 12 feet might not be  
7       conservative.

8       **Q**       When did you have that conversation with them?

9       **A**       I don't remember the exact date. Subsequent  
10      to this memo I think, and I also verified it once 04:28PM  
11      their expert reports were in. This was prior to  
12      their expert reports being filed.

13      **Q**       Do you know what the basis was for selecting  
14      10 feet?

15      **A**       Well, we can look in the version of the survey 04:28PM  
16      that appears in Volume I of Chapman, et al.

17      **Q**       If that's helpful to you, go ahead.

18      **A**       I'm on Page 4-10 where I mention conditions in  
19      around 1960 where people could see down 10 feet in  
20      the lake. I also mention, and I say I. I wrote 04:30PM  
21      this section of the report, and so as I pointed out  
22      before, the survey itself was vetted many times by  
23      the team as a whole. So we -- I should say we  
24      stated that in some places, it's three feet now;  
25      other places it's six feet as you move from where 04:30PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 the river comes in down to the dam, and that in the  
2 winter clearer water is restored throughout the  
3 lake. I footnote Page 17 -- I'm sorry, Footnote 17  
4 on this page is to the Cooke and Welch report, where  
5 I cite Figure 9, which is a table reporting data on  
6 Secchi disk readings available and page -- and  
7 elsewhere in 2008, Cooke and Welch 2008A they  
8 discuss their interpretation of historic conditions.  
9 So that's the basis for 10 feet.

04:31PM

10 **Q** Do you know if in 1960 people could see down  
11 10 feet everywhere in the lake?

04:31PM

12 **A** I didn't say everywhere. The survey doesn't  
13 say everywhere. It says people could usually see  
14 down about 10 feet and that in the judgment of Cooke  
15 and Welch is the -- is true.

04:32PM

16 **Q** So you were relying on Cooke and Welch for  
17 that statement?

18 **A** That's right.

19 **Q** Take a look at the following page of this memo  
20 that you wrote to David Page on May 3rd, 2008. At  
21 the top of the page the question you raise is, is 70  
22 percent from poultry the right number to use. Now  
23 the survey used 60 percent; is that correct?

04:32PM

24 **A** That's correct.

25 **Q** How did you arrive at that number?

04:33PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 represent to you Professor Morey indicated you  
2 drafted.

3 MS. XIDIS: Do you have another copy of  
4 that?

5 MR. DEIHL: You know, I don't have other 04:36PM  
6 copies. It was marked yesterday.

7 MS. XIDIS: I wasn't here yesterday.

8 **A** I'm familiar with both documents --

9 MS. XIDIS: I'll look over his shoulder.

10 **A** -- and did in fact author both documents. 04:36PM

11 MR. DEIHL: If we need to have copies made,  
12 go ahead.

13 MS. XIDIS: No. Go ahead.

14 **Q** Directing your attention to what is marked as  
15 Morey Exhibit 8 first, do you have that in front of 04:36PM  
16 you?

17 **A** Uh-huh.

18 **Q** What is this document?

19 **A** This document was produced because of a  
20 discussion in the group about the theory underlying 04:36PM  
21 the scope test.

22 **Q** What was the discussion about the theory  
23 underlying the scope test?

24 **A** There was some discussion in the group about  
25 whether the scope test, as it was finally portrayed 04:37PM

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**RICHARD BISHOP, PhD, 4-30-09****173**

1 in the scope instrument, was theoretically valid as  
2 a scope test, and in these two documents I'm arguing  
3 that it is, and these documents, particularly the  
4 second one, was developed -- consensus developed in  
5 the group that in fact it was theoretically  
6 justified.

04:37PM

7 **Q** Okay. Take a look at the second page of Morey  
8 Exhibit No. 8. Do you have that in front of you?

9 **A** Yes.

10 **Q** Can you describe for me what Figure 1 depicts?

04:38PM

11 **A** Figure 1 is a graph showing a hypothesized  
12 measure of water quality in the lake, and the  
13 horizontal axis portrays time, and the lines in the  
14 graph, there's a horizontal line at QL60, which is  
15 meant to portray in a theoretical sense water  
16 quality as it stood in 1960. QOL is meant to  
17 portray water quality in the lake in year zero here,  
18 which for purposes of our study was 2009. The other  
19 lines on the graph, the lines that are sloped  
20 portray theoretical time paths of recovery of the  
21 lake. The line labeled QML of T is meant to portray  
22 in theory the time path of the lake with the  
23 moratorium on spreading of poultry litter in place.  
24 Q, subscript, ALT is meant to portray in theory the  
25 time path of recovery of the lake with alum

04:38PM

04:39PM

04:40PM

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**RICHARD BISHOP, PhD, 4-30-09****174**

1 treatments, and the intermediate line, QLST, is  
2 meant to portray the theoretical time path of  
3 recovery with the alum treatments under the scope  
4 scenario.

5 Q Now, you said there was initially a discussion 04:40PM  
6 about the theory underlying the damage estimation  
7 using the scope test.

8 A Right.

9 Q And you indicated that some members of the  
10 team were questioning that theory, and eventually 04:40PM  
11 you all agreed on these exhibits; right?

12 A Well, yeah, particularly the second one.

13 Q Okay. Which members of the team were  
14 questioning that theory?

15 A Dr. Hanemann and to some extent Dr. Morey had 04:41PM  
16 some questions.

17 Q And what were the nature of their questions?

18 A To be an effective scope instrument, scope  
19 scenario let's say, the baseline for valuation needs  
20 to be the same for both the main survey and the 04:41PM  
21 scope survey.

22 Q And they were concerned that the baseline was  
23 not the same for both the base and scope survey?

24 A That's right.

25 Q Why were they concerned about that? 04:41PM

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**RICHARD BISHOP, PhD, 4-30-09****176**

1       **Q**       And does the sum of Areas B on Figure 1, C on  
2       Figure 1 and Z on Figure 2 represent the value of  
3       environmental services and damages in the base  
4       scenario?

5               MS. XIDIS: Objection to form.

04:46PM

6       **A**       You still want me in this one since it  
7       predates this one and the graphs are similar but the  
8       analysis may have changed?

9       **Q**       Well, right now I'd like to understand  
10      because I've spent so much time trying to understand  
11      it. If you could answer my question, I'd appreciate  
12      it.

04:46PM

13      **A**       All right. I will try to answer your  
14      question. The areas in the graph as it says -- I'm  
15      sorry. Let me refer you to Page 4 of Morey Exhibit  
16      8, and I'm looking in the next to the last  
17      paragraph, which begins one other loose end needs to  
18      be tied down, and there I define areas designated  
19      Areas A, B, C, X and Z in the figures are meant to  
20      refer to areas in the graph between the solid lines.

04:47PM

21      For example, if we look at Figure 1, Area A plus  
22      Area B plus Area C show the lost services from the  
23      lake once the ban is in place, and the comparable  
24      area in Figure 2, that is, a measure of the total  
25      lost services would be Area X plus Area Z.

04:48PM

04:49PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 Q Okay. I don't think you answered my question.

2 A Well, I'm getting to it.

3 Q Okay. Go ahead.

4 A I'm trying -- you know, I haven't seen this

5 since -- you know, I haven't seen this for -- 04:49PM

6 probably since the fall of 2007.

7 Q Okay.

8 A So let me just reason it through and in the

9 process, we'll see if I can answer your question.

10 Is that fair enough? 04:49PM

11 Q All right. Would it help you to take a break

12 and look at the document and we can do a tape change

13 while you're reviewing the document?

14 A That would be helpful.

15 Q Why don't we do that. 04:49PM

16 VIDEOGRAPHER: We are now off the Record.

17 The time is 4:48 p.m.

18 (Following a short recess at 4:48 p.m.,

19 proceedings continued on the Record at 5:02 p.m.)

20 VIDEOGRAPHER: We are now back on the 05:03PM

21 Record. The time is 5:02 p.m.

22 (Whereupon, the court reporter read

23 back the previous questions and answers at Page

24 176, Lines 1-12.)

25 Q Dr. Bishop, you've now had an opportunity to 05:04PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 review this document over a break. Can you answer  
2 my question?

3 **A** Let me --

4 **Q** I can reread the question.

5 **A** I'm just wanting to remember the areas you 05:05PM  
6 referred to, please.

7 **Q** Here's the question, Dr. Bishop: Does Areas B  
8 plus C plus Z equal the value of environmental  
9 services damages in the base scenario?

10 **A** No. What's depicted on these graphs is not 05:05PM  
11 the value of damages. It's cumulative -- these  
12 areas represent cumulative injuries, so there's no  
13 dollars in these graphs.

14 **Q** So does B plus C plus Z equal the cumulative  
15 injuries in the base scenario? 05:05PM

16 **A** Yes.

17 **Q** If you take a look on the last page of Morey  
18 Exhibit 6 --

19 MS. XIDIS: It's Morey 8, isn't it?

20 MR. DEIHL: I'm sorry. Morey 8. Thank 05:06PM  
21 you, Claire.

22 **Q** The final paragraph you wrote, we are  
23 basically asking whether the larger slice of  
24 injuries given by Area B plus Z -- excuse me, Area B  
25 plus Area C plus Area Z has a higher value than the 05:06PM

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1 slice of the injuries represented by Area C alone;  
2 that's an accurate statement; right?

3 **A** That's a correct reading of the sentence, yes.

4 **Q** And that's an accurate statement?

5 **A** In theory. Again, I'd just stress this is a 05:06PM  
6 theoretical exercise, and in theory the areas you  
7 designated -- the areas that are designated in this  
8 sentence are -- I think your interpretation is  
9 correct.

10 **Q** Just taking a look at Figure 1, would you 05:07PM  
11 agree with me that Area C is probably less than a  
12 third of Area B alone?

13 **A** Well, yeah. I would caution you on two  
14 levels. First of all, yes, Area C is less than Area  
15 B plus C. Was that your question? 05:07PM

16 **Q** No. My question was, is Area C approximately  
17 one-third of Area B alone?

18 **A** As this graph is drawn, yes, roughly speaking.

19 **Q** And Area C is something like, I'm just  
20 guessing here, a fifth of Area B plus Area C plus 05:08PM  
21 Area Z?

22 **A** Well, I would have to calculate areas, but as  
23 a crude approximation, I would go along with that.

24 **Q** And in your report, you find that the  
25 willingness to pay for the scopes survey is 05:08PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 approximately 25 percent less than the willingness  
2 to pay for the base scenario; right?

3 **A** That's correct.

4 **Q** Based on your willingness to pay estimates,  
5 you essentially estimated that Area C is equal to 05:08PM  
6 three-quarters of the sum of Areas B, C and Z;  
7 right?

8 **A** No.

9 **Q** Why not?

10 **A** As I stressed, this represents lost 05:08PM  
11 environmental services in a theoretical sense and  
12 not the value of those services. Also, any  
13 theoretical graph like this, it would be a mistake  
14 to attribute anything much to relative sizes of  
15 areas since this is a purely theoretical exercise. 05:09PM

16 **Q** Did you include any graphs like this in your  
17 final report?

18 **A** No.

19 **Q** Why not?

20 **A** The matter was settled, and I didn't think 05:09PM  
21 they were needed.

22 **Q** What matter was settled?

23 **A** The matter -- the issue that these graphs were  
24 designed to help resolve within our team.

25 **Q** That's the dispute between Dr. Hanemann and 05:09PM

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**RICHARD BISHOP, PhD, 4-30-09****181**

1 Dr. Morey and you and others?

2 **A** Well, I wouldn't call it a dispute. Let's say  
3 a collegial discussion.

4 **Q** Okay. Take a look on Page 4 of Morey Exhibit  
5 8, the top of the page. Are you assuming on the top 05:10PM  
6 of Page 4 that this is a normal good?

7 MS. XIDIS: Objection to form.

8 **A** As I said, money doesn't come into these  
9 graphs. When we deal with a normal versus an  
10 inferior good, we're talking about monetary values 05:11PM  
11 and how they change with price changes.

12 **Q** You write, we assumed that U, open paren,  
13 period, closed paren, and E, open paren, period,  
14 closed paren, have the usual properties. What did  
15 you mean by usual properties? 05:11PM

16 **A** Show me where you are in the document.

17 **Q** The top of Page 4.

18 **A** Top of Page 4. What I have at the top of Page  
19 4 is, likewise, under the scopes scenario -- I'm  
20 sorry, I'm on Page 5. Excuse me. I beg your 05:11PM  
21 pardon. I'm simply making the usual textbook  
22 assumptions here, which is that the utility function  
23 is quasi-concave, and some other technical  
24 assumptions.

25 **Q** So by usual properties, you meant that the 05:12PM

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**RICHARD BISHOP, PhD, 4-30-09****182**

1 utility function is quasi-concave?

2 **A** And satisfies other conditions in theory.

3 **Q** What assumption about the relationship between  
4 income and utility did you make?

5 **A** Again, as a standard assumption, utility 05:12PM  
6 increases with income.

7 **Q** And you made that assumption as --

8 **A** As part of the normal standard assumptions in  
9 this branch of theory.

10 **Q** What assumption did you make about the 05:13PM  
11 relationship between income and expenditures?

12 **A** That income is spent on goods and services.

13 **Q** What did you -- what assumption did you make  
14 about the relationship between income and  
15 expenditures? 05:13PM

16 **A** I assumed that as income increases,  
17 expenditures on goods, other than those related to  
18 water quality, which don't appear as explicit  
19 arguments but that are implicit in this equation,  
20 that expenditures on other goods, let us say goods 05:14PM  
21 other than the Qs in these equations, increase with  
22 expenditures.

23 **Q** Based on the graphs in Morey Exhibit 8, do  
24 they indicate to you a meaningful difference between  
25 the base and scope survey? 05:14PM

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**RICHARD BISHOP, PhD, 4-30-09****183**

1     **A**       I'm not sure what you mean by the word  
2     meaningful.

3     **Q**       What is necessary -- strike that. As an  
4     economist, wouldn't you be looking at whether the  
5     differences between the base and scope survey were       05:15PM  
6     significant?

7     **A**       The whole point of the scope exercise is to  
8     look for significant differences in the values  
9     between the scope and the main surveys.

10    **Q**       And based on these graphs, do you think       05:16PM  
11    there's a significant difference between the base  
12    and the scope survey?

13    **A**       I wouldn't base a judgment about differences  
14    between the base and scope instrument on these  
15    graphs.       05:16PM

16    **Q**       Okay. Take a look at the other exhibit I  
17    handed you, Deposition Exhibit No. 18 I believe.

18    **A**       Yes, and this is your copy of Morey 8 so I'll  
19    leave that for you.

20    **Q**       What is this exhibit just generally?       05:17PM

21    **A**       This exhibit is the second installment of  
22    Morey Exhibit 8. That is to say, there was further  
23    discussion over the phone, and I thought that a more  
24    lengthy exposition might help to clarify my stand on  
25    the issue that we were having the collegial       05:17PM

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**RICHARD BISHOP, PhD, 4-30-09****184**

1 discussion regarding, and so I wrote a longer piece,  
2 but unless I'm missing something, I used the same  
3 graphs. I just used longer explanations.

4 **Q** Okay. Thank you. Dr. Bishop, I've handed you  
5 what's been marked as Deposition Exhibit No. 19, 05:18PM  
6 which is an E-mail from Gene Welch to you dated  
7 December 8th, 2008. At this point in the process  
8 you already fielded the survey; correct?

9 **A** That's correct.

10 **Q** This E-mail asks you to look at the attached 05:18PM  
11 document that describes what you are going to do  
12 with past damages and provide comments. Is that a  
13 fair characterization of what this E-mail says?

14 **A** Yes. This E-mail was, as I think you pointed  
15 out, sent out on December 8th. It's a follow-up to 05:19PM  
16 a conversation with the people who are on the To  
17 line, and it asks them to comment on some material  
18 that I sent them.

19 **Q** Let's look at the attachment that contains Mr.  
20 Welch's comments. This is a draft of the text that 05:20PM  
21 you intended for the past damages report; correct?

22 **A** This is an early draft of a proposal I put  
23 together for addressing past damages, and that  
24 included some language based on conversations with  
25 the people addressed in the E-mail, and here are 05:20PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 some suggestions from Professor Welch.

2 Q Does any of this discussion end up in the past  
3 damages report to your recollection?

4 A No.

5 Q Why didn't this discussion appear in the past 05:21PM  
6 damages report?

7 A Because after I proposed the approach that I  
8 am discussing here, it was considered by the group  
9 and by Kerry Smith as peer reviewers, and the  
10 approach that I was proposing was rejected. It was 05:21PM  
11 rejected by consensus of the group, including  
12 myself, that a better approach was available, and  
13 that approach is represented in the current past  
14 damages report.

15 Q In this attachment in the first paragraph you 05:21PM  
16 are referencing data for the lake, the earliest of  
17 which is available for 1974. Do you see that?

18 A I see that in the first paragraph, yes.

19 Q Based on what's written there, what was the  
20 condition of the lake in 1974? 05:22PM

21 A The lake -- the lake-wide average placed this,  
22 according to my understanding of the Cooke and Welch  
23 analysis, borderline oligotrophic-mesotrophic.

24 Q The next available data for the lake was from  
25 1986; right? 05:22PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1       **A**       Correct.

2       **Q**       And in 1986 the lake's condition had changed;  
3       right?

4       **A**       Yes.

5       **Q**       And according to what's written here, what was                   05:23PM  
6       the lake's condition in 1986?

7       **A**       Average conditions set the trophic status of  
8       the lake at eutrophic.

9       **Q**       Is there any information presented here by  
10      which you can conclude in which year the lake became                   05:23PM  
11      eutrophic?

12      **A**       Not here.

13      **Q**       What was the condition of the lake in 2006  
14      based on the information here?

15      **A**       Between mesotrophic and eutrophic.                               05:23PM

16      **Q**       So it was no longer eutrophic?

17      **A**       In the year 2006 the lake was, based on  
18      chlorophyll-a, was borderline mesotrophic-eutrophic.  
19      In all other years since beginning in 2001 and going  
20      to 2007, it was eutrophic.   05:24PM

21      **Q**       Take a look at the past damages report.

22      **A**       Let's see. Is that -- let's see what I've got  
23      here in front of me.

24      **Q**       It's in Chapman.

25      **A**       It should be here I guess. Do you happen to                   05:24PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**187**

1 know what Chapman exhibit that is?

2 Q It's near the back of the Chapman notebook. I  
3 can find it for you.

4 A All right. I appreciate it.

5 Q It's actually the one with the tab 05:24PM  
6 conveniently.

7 A Oh, okay. That helps. All right. I have it.

8 Q Why don't you turn to that report on Page 3,  
9 please?

10 A I have Page 3. 05:25PM

11 Q Do you see where it says that the average  
12 annual injuries are comparable over time?

13 A Yes.

14 Q Now, the information we just looked at in the  
15 attachment to the E-mail, Exhibit 19, doesn't 05:25PM  
16 support that, does it?

17 A As we said when we looked at this paragraph  
18 before today, this paragraph is based on personal  
19 communication with Stevenson, Cooke and Welch and  
20 their consideration, not just of chlorophyll-a data, 05:26PM  
21 but the other sources of information that they had  
22 at their disposal.

23 Q If your assumption about a constant annual  
24 injury over time is incorrect, what does that do to  
25 your methodology for past damages? 05:26PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09****188**

1 MS. XIDIS: Objection to form.

2 **A** There's this bright line that you're trying to  
3 draw between correct and incorrect. As I say -- as  
4 we say here, average annual injuries were  
5 approximately comparable or approximately equal, if 05:27PM  
6 you will, between the two periods. So we're not  
7 saying that the averages are exact.

8 **Q** If they weren't approximately equal between  
9 the two periods, what would that do to your  
10 estimation of past damages? 05:27PM

11 **A** It would mean we would have to recalculate  
12 past damages.

13 **Q** Let's go back to Exhibit 19. That's the  
14 exhibit you just had in front of you.

15 **A** 19, uh-huh. 05:27PM

16 **Q** Take a look at the third paragraph of the  
17 attachment. Do you see that?

18 **A** Yes.

19 **Q** That paragraph reads, thus, the injuries to  
20 the river and lake were well along towards current 05:28PM  
21 levels by the mid 1980s, and we settled on the  
22 period 1986 to 2008 as the period over which we  
23 would estimate past damages. Do you see that?

24 **A** Uh-huh, yes.

25 **Q** As of December 8th, 2008, you were looking at 05:28PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**189**

1 damages, past damages beginning in 1986; right?

2 **A** I believe that in my proposed approach to  
3 measuring damages, we began with the year 1986.

4 **Q** And why did you do that?

5 **A** Based on the advice of Cooke, Welch and 05:28PM  
6 Stevenson.

7 **Q** Now, in the actual past damages report, you  
8 measure past damages from 1981; right?

9 **A** That's correct.

10 **Q** Why the discrepancy? 05:29PM

11 **A** We, as a group, made the decision to extend  
12 the period of past damages back to 1981 and  
13 discussed this with the scientists I've mentioned,  
14 and asked them to reflect on the issue of average  
15 injuries over those past and future periods. 05:29PM

16 **Q** Who did you discuss that with?

17 **A** I believe at this point the work on past  
18 damages involved Mr. Chapman, Dr. Hanemann and  
19 myself.

20 **Q** Who made the decision to go back to 1981? 05:30PM

21 **A** We made it as a group.

22 **Q** So that group was you, Mr. Chapman. Who else?

23 **A** Dr. Hanemann.

24 **Q** Did any of the lawyers participate in the  
25 decision to go back to 1981? 05:30PM

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**EXHIBIT D**



**RICHARD BISHOP, PhD, 4-30-09**

**191**

1 5th of 2009; right?

2 **A** That's correct.

3 **Q** So this was five days before it was due?

4 **A** Yes.

5 **Q** What input did the attorneys, Claire Xidis and 05:33PM  
6 David Page, have to the calculation of past damages,  
7 if any?

8 **A** I believe this E-mail was sent to Claire Xidis  
9 and David Page in order that it be -- that they have  
10 an opportunity to review this draft and to have it 05:33PM  
11 peer reviewed.

12 **Q** Is it your testimony that you had this draft  
13 peer reviewed between December 31st, 2008 and  
14 January 5th of 2009?

15 **A** My recollection is that it was. 05:34PM

16 **Q** Who peer reviewed it?

17 **A** Kerry Smith.

18 **Q** What led to the change from 1986 to 1981?

19 **A** Several changes occurred after this draft was  
20 submitted for peer review. As a group of people, 05:34PM  
21 that is Hanemann, Chapman and myself in consultation  
22 with the peer reviewer, did not adopt the approach  
23 that I was proposing here because it made  
24 assumptions that were -- that went too far in  
25 several respects, and so we decided as a group to 05:34PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**192**

1 change the approach.

2 Q You say we decided as a group. Who made that  
3 decision?

4 A Hanemann, Chapman and myself.

5 Q Did you have discussions with Kerry Smith 05:35PM  
6 about the 1981-1986 distinction?

7 A No.

8 Q That wasn't a comment that came from Kerry  
9 Smith?

10 A No. 05:35PM

11 Q What were Kerry Smith's comments?

12 A He and other members of our subteam were  
13 concerned about the assumptions that I had to make  
14 to make the analysis that I did work.

15 Q Any other comments by Mr. Smith? 05:36PM

16 A That's what I recall.

17 Q Did the past damages amount change between  
18 December 31st, 2008 and the final report on January  
19 5th, 2009?

20 A Yes. 05:37PM

21 Q How much did it change by?

22 A It looks like from the draft that is presented  
23 in Exhibit 20 that the estimate that came out of the  
24 analysis that I proposed was almost 329 million  
25 dollars less -- you want me to give the exact figure 05:38PM

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**EXHIBIT D**



**RICHARD BISHOP, PhD, 4-30-09**

**193**

1 or is that close enough?

2 Q No. That's fine.

3 A The estimate that came out of the new approach  
4 was \$126,327.31 -- I'm sorry, let me repeat that.  
5 \$126,327,031. 05:39PM

6 Q Are you aware that 1981 was the year that  
7 CERCLA took effect?

8 A Yes.

9 Q Dr. Morey, I've handed you what's been marked  
10 as Deposition Exhibit 22. This was from your 05:40PM  
11 considered by materials. Can you identify this  
12 document?

13 A This is a document that I received from  
14 Stratus Consulting at the beginning of the benefits  
15 transfer process presenting some articles. 05:40PM

16 Q And it looks like you were or Stratus  
17 Consulting was looking for articles regarding yea  
18 saying?

19 MS. XIDIS: Object to the form.

20 A The exhibit's heading is Preference 05:40PM  
21 Uncertainty and Ambivalence, so I assume it's  
22 articles related to that topic and, you know,  
23 skimming down the list, I don't think this is  
24 restricted to yea saying.

25 Q Okay. Take a look at the fourth page. 05:41PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**194**

1     **A**       Oh, there is -- yeah, okay.

2     **Q**       Does the fourth page reflect articles  
3       concerning yea saying?

4     **A**       Yes.

5     **Q**       And there's an article listed on the fourth               05:41PM  
6       page dated 2006; do you see that?

7     **A**       Yes.

8     **Q**       Would you consider the topic of yea saying to  
9       be passT?

10            MS. XIDIS: Object to form.                               05:41PM

11     **A**       PassT?

12     **Q**       Yes.

13     **A**       No.

14     **Q**       People are still writing about yea saying in  
15       the literature; correct?                               05:41PM

16     **A**       There -- obviously something appeared in 2006.

17     **Q**       What is your understanding of what yea saying  
18       is?

19     **A**       You're opening up a big complicated question  
20       there. If we start with what I think is a useful               05:42PM  
21       point of departure, there's a whole literature on --

22     **Q**       I'm not asking you to go through the  
23       literature. I'm asking if you can give me a  
24       definition of yea saying.

25     **A**       I've never understood what yea saying was.               05:42PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

195

1 Q Okay. So you can't?

2 A I've never written on the topic; I've never  
3 used it in anything I published.

4 Q Fair enough. Take a look at Exhibit 21, which  
5 is in front of you. It's the one I handed you 05:43PM  
6 earlier. Exhibit 21 is an E-mail from Kevin Boyle  
7 to David Chapman dated January 4, 2009; is that  
8 correct?

9 A Yes.

10 Q And in this E-mail Kevin Boyle writes, David, 05:43PM  
11 I really think EPA's are the best and they do not  
12 apply, and he's referring to EPA's guidelines;  
13 correct?

14 A Right.

15 Q Are the guidelines cited in the past damages 05:43PM  
16 report?

17 A Yes, they are.

18 Q Dr. Morey (sic), I've handed you what's been  
19 marked as Deposition Exhibit No. 23, which was also  
20 in your considered by materials. This is a review 05:44PM  
21 of benefit -- this was labeled in your considered by  
22 material benefit dot transfer review. Have you seen  
23 this before? Dr. Bishop, have you seen this  
24 document before?

25 A Yes. 05:45PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

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1       **Q**       And it appears to be a literature review of  
2       benefit transfer studies; is that a fair  
3       characterization?

4       **A**       Yes.

5       **Q**       At the end of each of the studies are comments       05:45PM  
6       in bold. Are those your comments?

7       **A**       No.

8       **Q**       Do you know whose comments they are?

9       **A**       I don't believe they are. Let me -- yeah. I  
10      don't know -- reviewing the first two things in       05:45PM  
11      bold, I don't know who wrote these comments.

12      **Q**       Take a look at Page 2 of Exhibit 23, Dr.  
13      Bishop.

14      **A**       Uh-huh.

15      **Q**       The comments on the article by Bergstrom and       05:46PM  
16      L. O. Taylor, do you see that?

17      **A**       Yes.

18      **Q**       Can you read those comments for me?

19      **A**       Someone wrote in here, looking at the last  
20      paragraph it says that MABT studies probably aren't       05:46PM  
21      appropriate for litigation purposes, although we are  
22      looking to do BT over the same population in the  
23      past, so this may be a bit more reliable.

24      **Q**       Do you think resource economists generally  
25      support the use of benefits transfers for litigation       05:46PM

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**RICHARD BISHOP, PhD, 4-30-09**

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1 purposes?

2 **A** I can't generalize about resource economists.

3 I know that the Department of Interior has approved

4 benefits transfer as a tool to be used in natural

5 resource damage assessments.

05:47PM

6 **Q** Dr. Bishop, if you'd take a look a little

7 further along in Exhibit 23 on Page 6 of that

8 exhibit --

9 **A** Okay.

10 **Q** -- can you read the comment that was written

05:48PM

11 about -- at the top of that page?

12 **A** More of an MT than BT.

13 **Q** I think you're on the wrong page.

14 **A** I'm sorry. The pages aren't numbered. So I'm

15 fumbling here. Tell me what appears at the top of

05:48PM

16 the page.

17 **Q** The top of the page is -- let me just read the

18 comment. This is referring to the Brouwer, F.

19 Spaninks 1999 report article.

20 **A** Let me find it. Brouwer, Langford, Bateman

05:49PM

21 and Turner?

22 **Q** Right above that do you see the comment in

23 bold?

24 **A** Yes.

25 **Q** Would you read that into the Record, please?

05:49PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09****198**

1     **A**       A disappointing result of how BT fails even  
2     when study sites are close and the environmental  
3     good identical.

4     **Q**       Thank you. Now, take a look at Deposition  
5     Exhibit No. 24. This is an article from your  
6     considered by materials. You're the author of this  
7     document; correct?

05:49PM

8     **A**       That's correct.

9     **Q**       When you wrote this document, did you think it  
10    would be included in the Stratus contingent  
11    valuation report?

05:49PM

12    **A**       I proposed it for inclusion in that report.

13    **Q**       What was the purpose behind this document?

14    **A**       Hypothetical bias is a topic that has been --  
15    has received significant attention in the  
16    literature, and I was interested in exploring the  
17    implications of that literature for the contingent  
18    valuation study that we're discussing today.

05:50PM

19    **Q**       Have you written articles about hypothetical  
20    bias?

05:50PM

21    **A**       Yes.

22    **Q**       Take a look at Page 8 of this document,  
23    please.

24    **A**       I have Page 8.

25    **Q**       What are the comments in the last column where

05:51PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09****199**

1 you wrote no or yes?

2 **A** This table, which begins on -- at least back  
3 on Page 7, if not before, is a discussion of studies  
4 of hypothetical bias in contingent valuation studies  
5 using referenda as their format.

05:51PM

6 **Q** Did you review those studies?

7 **A** I did.

8 **Q** The last column where it says no, is that your  
9 impersonal -- is that your interpretation of whether  
10 this study found hypothetical bias or not?

05:52PM

11 **A** That's my interpretation.

12 **Q** Dr. Bishop, we talked earlier about the  
13 baseline that you used in this contingent valuation  
14 survey. Do you recall that discussion?

15 **A** Yes.

05:53PM

16 **Q** How is the recovery period for the Illinois  
17 River watershed with a moratorium but without the  
18 use of alum determined?

19 **A** The recovery period used in the survey for the  
20 river, the base survey for the river used a recovery  
21 period under the conditions you specified of 50  
22 years.

05:54PM

23 **Q** How was that determined?

24 **A** Because the modeling results that ultimately  
25 resulted in the publications or the reports, excuse

05:54PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

200

1 me, the reports by Engels and by Wells, et al, were  
2 not available to us until after the survey was  
3 fielded or shortly before the survey was fielded.

4 They were available shortly before the survey was  
5 fielded. Excuse me. During the evolution of the  
6 survey instrument, and by evolution, I mean

05:55PM

7 beginning with the very general focus groups in  
8 October of 2006 and ending in the main instrument.

9 We needed to have a recovery period, and we could  
10 not get clear guidance on what that recovery period

05:55PM

11 would look like, and so in order to proceed with  
12 development of the survey instrument, we consulted  
13 with the natural scientists and concluded that 50  
14 years for the river was a plausible number to use,  
15 plausible in terms of the expected results of the  
16 scientific studies that we could use for purposes of  
17 developing the survey instrument.

05:56PM

18 Q Who did you consult with in making that  
19 decision, Dr. Bishop?

20 A Engel, Stevenson, Cooke and Welch. Well, I'm  
21 sorry, on the river, Engel and Stevenson.

05:56PM

22 Q And who made the decision to use 50 years, the  
23 economic team or the injury team?

24 A We made the decision to use 50 years in  
25 developing the survey instrument in consultation --

05:56PM

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**RICHARD BISHOP, PhD, 4-30-09****201**

1 we, the economics team, made the decision to use 50  
2 years in consultation with what the injury team --  
3 the injury team thought was a plausible value.

4 **Q** And when was that decision made approximately?

5 **A** Fairly early in the process of developing the 05:57PM  
6 survey instrument. I can't tell you even  
7 approximately a date. That could be traced to the  
8 earlier drafts of the survey that were turned over  
9 to you at discovery.

10 **Q** Does the alum treatment recovery period depend 05:57PM  
11 in any way on the moratorium only recovery period?

12 **A** No.

13 **Q** Why not?

14 **A** The recovery period with alum treatments was  
15 designed to provide respondents with a plausible 05:58PM  
16 date of recovery for purposes of the valuation  
17 exercise.

18 **Q** Dr. Bishop, I've handed you for purposes of  
19 identification as Deposition Exhibit No. 25. This  
20 is a document that was in your considered by 05:59PM  
21 materials. Have you reviewed this document before?

22 **A** Yes.

23 **Q** And this is an article by Vossler and  
24 Kerkvliet. Did I say that right?

25 **A** Close enough. 06:00PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**202**

1       **Q**       Thank you.   Entitled A Criterion Study of the  
2       Contingent Valuation Method.

3       **A**       Uh-huh.

4       **Q**       Take a look at Page 642 of this document.

5       **A**       Okay. 06:00PM

6       **Q**       The section labeled 5.4, the authors write in  
7       the second sentence, more importantly, all existing  
8       comparisons of CV survey results and referendum  
9       outcomes are sensitive to how undecided responses  
10      are treated.   Do you see that? 06:01PM

11      **A**       Yes.

12      **Q**       Do you agree with that conclusion?

13      **A**       I've been seeking the citations that are made  
14      in the first sentence of that paragraph in order to  
15      understand where this paragraph comes from.   I would 06:02PM  
16      have to go through all of those studies and perhaps  
17      others in the table that we just talked about to be  
18      willing to agree or disagree with all existing  
19      comparisons.   That's a very broad general statement,  
20      and I'm not prepared to agree or disagree with the 06:03PM  
21      statement.

22      **Q**       Did you review this document in preparation of  
23      the contingent valuation report in this matter?

24      **A**       Yes.

25      **Q**       At that time did you review the literature to 06:03PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**203**

1 determine whether or not this was a true statement?

2 **A** Well, I would certainly agree that some  
3 existing comparisons depend on undecided -- on how  
4 undecided responses are treated.

5 **Q** If the finding of no hypothetical to bias 06:04PM  
6 depends on the arbitrary treatment of undecided  
7 respondents, then your contention that the  
8 contingent valuation referenda don't have  
9 hypothetical bias is weakened, isn't it?

10 MS. XIDIS: Objection to form. 06:04PM

11 **A** Can you read that again, please?

12 (Whereupon, the court reporter read  
13 back the previous question.)

14 **A** Arbitrary treatment? I don't know what that  
15 means. 06:04PM

16 MR. DEIHL: Why don't we take a minute. I  
17 think I'm finished. Let me look at my notes.

18 VIDEOGRAPHER: We are now off the Record.  
19 The time is 6:04 p.m.

20 (Following a short recess at 6:04 p.m., 06:05PM  
21 proceedings continued on the Record at 6:10 p.m.)

22 VIDEOGRAPHER: We are back on the Record.  
23 The time is 6:10.

24 **Q** Mr. Bishop -- Dr. Bishop, I've handed you  
25 Deposition Exhibits 26 and 27 which came out of your 06:12PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**204**

1 considered by materials. Can you look through these  
2 documents and tell me if they are your notes?

3 **A** I believe these are my notes, yes.

4 **Q** That would be true of both exhibits?

5 **A** Both exhibits. 06:12PM

6 MR. DEIHL: I don't have any further  
7 questions.

8 MS. XIDIS: Does anyone else in the room  
9 have questions?

10 MR. JONES: I don't have questions. 06:13PM

11 MR. HIXON: No questions.

12 MS. XIDIS: Anyone on the phone have  
13 questions? For the Record we have produced, per  
14 your request, an updated version of Dr. Bishop's CV.  
15 If you'd like to take a few minutes and look at it, 06:13PM  
16 we're willing to wait if you have questions on that.

17 MR. DEIHL: Okay. Why don't we take a few  
18 minutes and look at it off the Record.

19 VIDEOGRAPHER: We are now off the Record.  
20 The time is 6:12 p.m. 06:13PM

21 (Whereupon, a discussion was held off  
22 the Record.)

23 VIDEOGRAPHER: We are back on the Record.  
24 The time is 6:14 p.m.

25 **Q** Dr. Bishop, I was handed a few moments ago a 06:15PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**205**

1 copy of your updated curriculum vitae. Where did  
2 this copy of the updated curriculum vitae come from?

3 **A** I don't know.

4 **Q** Did you produce this updated curriculum vitae  
5 today? 06:15PM

6 **A** I did not.

7 MS. XIDIS: I can represent it was provided  
8 to us from Stratus Consulting.

9 **Q** Did you request that this document be provided  
10 to counsel from Stratus Consulting today? 06:15PM

11 **A** No.

12 **Q** Take a look at this updated curriculum vitae.  
13 Is this curriculum vitae now accurate?

14 **A** To the best of my knowledge.

15 **Q** We obviously haven't had a chance to review 06:16PM  
16 your article, Is Willingness to Pay For Public Goods  
17 Sensitive to Elicitation Format that was listed on  
18 this article. I guess I'd ask you the question, is  
19 willingness to pay for public goods sensitive to  
20 elicitation format? 06:16PM

21 **A** Yes.

22 MR. DEIHL: I don't have any further  
23 questions.

24 MS. XIDIS: We will read and sign.

25 VIDEOGRAPHER: This concludes the 06:16PM

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**EXHIBIT D**

**RICHARD BISHOP, PhD, 4-30-09**

**206**

1 deposition. We are now off the Record. The time is  
2 6:15 p.m.

3 (Whereupon, the deposition was  
4 concluded at 6:15 p.m.)  
5  
6  
7  
8  
9  
10  
11  
12  
13  
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